МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ

Федеральное государственное бюджетное образовательное учреждение

высшего образования

«Забайкальский государственный университет»

(ФГБОУ ВО «ЗабГУ»)

Факультет филологии и массовых коммуникаций

Кафедра иностранных языков

**УЧЕБНЫЕ МАТЕРИАЛЫ**

**для студентов заочной формы обучения**

*(с полным сроком обучения)*

по дисциплине **Иностранный язык**

для направления подготовки 09.03.03 Прикладная информатика

Профиль: прикладная информатика в экономике

Общая трудоемкость дисциплины – 252 часа /7 з.е.

Форма текущего контроля в семестре – контрольная работа

Форма промежуточного контроля в семестре –1,2 семестр зачет/ 3 семестр экзамен

**Краткое содержание курса**

**3 семестр**

1. Контрольная работа №3

## 2. Устный перевод текстов “Microsoft Windows NT”, “ Computer Viruses”, “Software Piracy”, “The Three Phases of a Software Engineer”. (Даны после контрольных работ).

**Форма текущего контроля**

МЕТОДИЧЕСКИЕ УКАЗАНИЯ

Особенностью овладения иностранным языком при заочном обучении является то, что объем самостоятельной работы студента по выработке речевых навыков и умений значительно превышает объем практических аудиторных занятий с преподавателем. Соотношение аудиторных и самостоятельных часов, отводимых на полный курс обучения равно 40 ч.: 240 ч. Таким образом, каждому аудиторному двухчасовому занятию должно предшествовать не менее шести часов самостоятельной работы студента.

Самостоятельная работа студента по изучению иностранного языка охватывает: заучивание слов английского языка, уяснение действия правил словообразования, грамматических правил, чтение текстов на английском языке вслух в соответствии с правилами чтения, понимание текстов, слушание текстов, записанных на магнитофонной ленте, с тем, чтобы научиться правильно произносить и пониматъ на слух содержание сообщения; построение вопросов и ответов к текстам; перевод на русский язык (устный и письменный).

ВЫПОЛНЕНИЕ КОНТРОЛЬНЫХ ЗАДАНИЙ И ОФОРМЛЕНИЕ КОНТРОЛЬНЫХ РАБОТ

Контрольная работа выполняется по вариантам, в соответствии с последними цифрами в номере зачётной книжки. Если номер зачётки оканчивается на 1 или 2, выполняется вариант № 1; на 3 или 4 - № 2; на 5 или 6 - № 3; на 7 или 8 - № 4; на 9 или 0 - № 5. Выполнять письменные контрольные работы следует в отдельной тетради, в рукописном варианте, аккуратно, четким почерком.

Материал контрольной работы следует располагать в тетради по следующему образцу:

|  |  |  |  |
| --- | --- | --- | --- |
| Левая страница | | Правая страница | |
| Поля | Английский текст | Русский текст | Поля |

**КОНТРОЛЬНЫЕ ЗАДАНИЯ**

**Контрольная работа № 3**

Чтобы правильно выполнить работу 3, необходимо усвоить следующие разделы курса английского языка по рекомендованному учебнику:

1. Существительное в функции определения.
2. Грамматическая функции и значения слов **that, one, it.**
3. Пассивный залог (the Passive Voice) видо-временных форм Indefinite, Continuous, Perfect.
4. Функции глаголов **to be, to have, to do.**

Используйте образцы выполнения упражнений:

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 1 (К упр.I)

**Особенности перевода на русский язык английских имен существительных, употребляющихся в функции определения, стоящего перед определяемым словом.**

1. The scientist works at some Этот ученый работает над неко-

problems of **low temperature** торыми проблемами физики

physics. *низких температур.*

2. This girl studies at **the Patris** Эта девушка учится в универ-

**Lumumba Friendship University.** ситете *Дружбы народов име-*

*ни Патриса Лумумбы.*

ОБРАЗЕЦ ВЫПОЛНЕНИЯ 2 (К упр.III)

**Present Perfect Passive**

The main question has already Главный вопрос уже обсудили.

been discussed.

**Present Indefinite Passive**

His scientific work is much О его научной работе много

spoken about. говорят.

**Вариант 1**

**I. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным.**

1. Our professor prefers new research methods.
2. They change the office telephone number.
3. My friend has three room apartment.

**II. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог сказуемого. Переведите предложения на русский язык.**

1. Sometimes a decision to compute is followed by a process of selecting the particular kind of computing machine best suited for the given problem.

2. Soon one will be able to get to Kronstadt by road as well as by sea.

3.May 7, 1895 has entered the history of science as the date of the invention of radio.

4. The builders are planning the road.

**III. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one.**

1. It is proved that light needs time to travel any distance.
2. One must take part in scientific work.
3. Specialists consider that in future city transport will reject gasoline.

**IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to do, to have.**

1. You have to come to the language laboratory of the Institute to work at your pronunciation.

2. This material does not possess elastic properties.

3. Scientists had to create new materials foe industry.

4. The exam was to start in the morning.

**V. Прочитайте перепишите и письменно переведите на русский язык текст.**

The result was an ISO Standard with two levels: level 0 is essentially the Jensen and Wirth style of Pascal slightly tightened up, while level 1 adds conformant array arguments. The IEEE/ANSI Standard for Pascal, adopted shortly thereafter, is essentially the ISO Standard at level 0. For this reason, and because of their controversial form, conformant array arguments are still not in wide use and may never be.

Both Standards suffer less from this minor contention than from what was left out. Little is specified in either Standard about how the names of external files are associated with internal file variables; almost nothing is said about how parameters are obtained from a command line at program startup; only the barest machinery is suggested for supporting separate compilation and the construction of reusable Pascal libraries; and any number of extensions found to be useful or even necessary in commercial programming were not considered. Thus, it is a rare implementation that does not boast of significant extensions to Standard Pascal, unfortunately, in varying directions for similar capabilities.

Most of the strength of the ISO Standard comes from an extensive Pascal Validation Suite, first published by the University of Tasmania. This large collection of test programs probes the least-utilized aspects of its implementation and ferrets out deviations from the Standard both obvious and subtle.

**Вариант 2**

**I. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным.**

1. Space research laboratories have modern equipment.
2. In our country many state supported public schools.
3. This workshop has high voltage transmission line design.

**II. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог сказуемого. Переведите предложения на русский язык.**

1. A lot of various organizations have taken part in the design of the flood defence complex.

2. The building of the road is being planned by the designers of our Institute.

3. Such solution will make the problem more difficult.

4. The speed with which arithmetic operations are performed is affected by a number of factors.

**III. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one.**

1. It is necessary to find new resources of cheap energy.
2. It was Einstein who came to the conclusion that the electromagnetic field is influenced by the gravitational field.
3. This metro station was opened last year and the one will be put into operation in two years.

**IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to do, to have.**

1. Man had to learn to obtain electric power directly from the Sun.

2. At present most of the industrial enterprises have their own electric power stations.

3. Specialists do not use solar cells in industry as they are too expensive.

4. The engineers are to study the problem of using cosmic rays.

**V. Прочитайте перепишите и письменно переведите на русский язык текст.**

An interesting sidelight in this development was the introduction, by Western Digital, of a chip set that could execute P-code directly. While this implementation did indeed offer substantially enhanced performance, it was hampered by the less-than-ideal design of the P-code itself; and its acceptance was probably weakened by changes in the P-code specification in later versions of the UCSD P-system that became available after the hardware design was frozen. In the end, the Western Digital Pascal Microengine, built around this chip set, never really caught on.

Another important milestone in the spread of Pascal occurred in the early 1980s with the publication of an ISO Standard for the language. While the ISO Standard was, in many ways, just a simple edit of Jensen and Wirth, it did tighten up some parts of the language whose specification had proved to be vague. It also attempted to deal with an overly restrictive aspect of the language by introducing conformant array arguments; that is, arguments to functions or procedures that convey their range of valid subscripts, rather than requiring an exact match of all array attributes. The goal was to permit the expression of functions and procedures that could manipulate arbitrary length vectors, as is commonplace in Fortran, PL/I, and C, but the machinery introduced was sufficiently cumbersome to arouse controversy.

**Вариант 3**

**I. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным**

1. The North Pole expedition made very important investigations.
2. All technical students have foreign language studies for two first years.
3. The Lenin Library has two million volumes.

**II. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог сказуемого. Переведите предложения на русский язык.**

1. The relationship between the computers and the people that use them has been given much attention.

2. Radio is playing an ever increasing role in our life.

3. In 1938 the first TV station came into being in Moscow but the war stopped the development of television.

4. There will be more new synthetic materials in future.

**III. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one.**

1. It is the number of electrons within the atom that determines the properties of a substance.

2. The territory of Moscow is larger than that of London.

3. In London one must get used to the left-side traffic.

**IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to do, to have.**

1. Some substances do not conduct heat.

2. Our plant is to increase the output of consumer goods.]

3. Soon our industry will have new and cheap sources of energy.

4. These computers will have to perform millions of operations per second.

**V. Прочитайте перепишите и письменно переведите на русский язык текст.**

A significant new departure occurred in the late 1970s when Ken Bowles, at the University of California in San Diego, made available a dramatically reworked version suitable for operation on inexpensive PDP-11 and Z80computers that were just becoming available in quantity. This UCSD P-system was enthusiastically embraced by educators, was quickly moved to other microcomputers with the eager assistance of various hardware vendors, and was even touted for a time as an important vehicle for developing commercial software packages.

Commercial rights to the UCSD P-system were purchased in the early 1980s by Softech Microsystems, a subsidiary set up just for that purpose by the established software house Softech, Inc. Despite extensive enhancement of the original package, and aggressive promotion among microcomputer hardware vendors and software developers, Softech Microsystems never fully realized its early promise and faded quietly from the scene after a few years. Currently, the P-system has been largely displaced by a broad assortment of compilers whose native code output dramatically outperforms the best emulators for P-code.

**Вариант 4**

**I. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным**

1. He likes to listen the twentieth century music.
2. The workers install the new transformer in this shop.
3. Moscow has very heavy city traffic.

**II. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог сказуемого. Переведите предложения на русский язык.**

1. Magnetic amplifiers have been employed for more than fifty years; transistors were first reported upon in 1948 – 1949.

2. There exist more compounds of hydrogen than of any other element.

3. Some powerful radio stations have recently been built in the northern regions.

4. The machine-tool will measure its production itself.

**III. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one.**

1. The success in chemistry made it possible to obtain a lot of new materials.

2. One must apply the material that can be machined easily.

3. It is the energy of falling water that is used to dive turbines.

**IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to do, to have.**

1. The operators dealing with radioisotopes must have protective suits.

2. The engineers are to study the problem of using solar energy.

3. The chemical industry is one of the leading branches of our national economy.

4. Metals conduct electricity better than semiconductors do.

**V. Прочитайте перепишите и письменно переведите на русский язык текст.**

The original implementation of Pascal was on a CDC 6000-series mainframe, whose idiosyncrasies have colored the language in a number of unfortunate ways. Aside from this coloration, the implementation was intended to be highly able. Rather than develop a compiler that produced native machine code for the CDC, Wirth chose to have the original translator produce an artificial "machine language" called P-code, which is then interpretively executed by an emulator. Once the translator was rewritten in Pascal, and translated to P-code, moving the entire implementation to a new environment primarily consisted of rewriting the relatively small emulator portion of the package.

Pascal spread in its early days by the migration of this package to various mainframes, primarily in computer science departments of major universities. To this day, the definitive reference for Pascal is still generally considered to be the Pascal User Manual and Report by Kathleen Jensen and Niklaus Wirth, which describes the original implementation.

**Вариант 5**

**II. Перепишите следующие предложения и переведите их, обращая внимание на особенности перевода на русский язык определений, выраженных именем существительным**

1. In our library there are many high quality textbooks.
2. The tram stop is three block of flats from here.
3. In this region there is the world’s largest iron ore deposits.

**II. Перепишите следующие предложения, определите в каждом из них видо-временную форму и залог сказуемого. Переведите предложения на русский язык.**

1. Much attention is being paid to the development of three-dimensional television.

2. Our specialists had workers out a new flexible line some month ago.

3. The tests were being carried out well.

4. Many graphics programs are controlled by a mouse or some other device.

**III. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения слов it, that, one.**

1. It is necessary to obtain accurate data on the possibility of living and working in space.

2. The peoples know that their joint efforts can secure peace in the whole world.

3. We had to find new methods of investigation because the old ones were unsatisfactory.

**IV. Перепишите следующие предложения и переведите их на русский язык, обращая внимание на разные значения глаголов to be, to do, to have.**

1. A programme for the construction of new types of spaceships is to be carried out this year.

2. This device does help them a lot in their work.

3. We had to change the design of this machine.

4. The speed of electrons is almost the same as that of light.

**V. Прочитайте перепишите и письменно переведите на русский язык текст.**

Pascal is a procedural language, used for specifying all of the steps of a computation, and hence has a strong kinship to Algol, Fortran, PL/I, and C. Since its inception in the early 70s, Pascal has grown steadily in popularity, first among the academic community to which it was originally directed, but increasingly among commercial enterprises, which sees it as a vehicle for producing more reliable programs at lower cost. It is perhaps more widely used in Europe than in the United States, where it is being steadily displaced by growing use of the C language; but it is nevertheless a significant language for expressing programs around the world today.

Pascal was designed and developed by Niklaus Wirth, one of the major figures in computer science for two decades. His stated intention was to produce a language eminently suited for teaching the fundamentals of computer programming to beginners, yet capable of reasonably efficient implementation on most modern computers. Since Pascal is now the language of choice for introductory computer programming courses, and since adequate to excellent implementations of Pascal are available on every popular computer, his success at achieving these goals is evident.

**Тексты для устного перевода.**

**Microsoft Windows NT**

The real success of Microsoft Windows is that millions of personal computer users have discovered something important to every business. It makes them more produc­tive than ever before.

Today's business environment places more demands on computing technology, however. Complex, line-of-business applications such as inventory management, finan­cial trading, and on-line transaction processing demand powerful hardware and reliable, responsive and secure operating systems. Just as PC hardware is rapidly ad­vancing to take on these problems, now the Microsoft Windows NT operating system gives you personal produc­tivity and the power to handle complex business demands.

Microsoft Windows NT is a robust platform, with ad­vanced features needed to build sophisticated line-of- business solutions. It provides fully 32-bit operations, preemptive multitasking, advanced security and relia­bility, built-in networking, and complete scalability across hardware platforms for users of powerful PCs, workstations and network servers.

Windows NT provides the ease of use and proven produc­tivity of the Windows intuitive, graphical interface. And it unlocks the potential of a wide range of advanced PC hardware, including machines based on the Intel® 80x86 processor family and RISC architectures such as the MIPS R3000 and R4000. It also supports symmetric multiprocessing systems.

Moreover, you have access to a host of existing appli­cations for MS-DOS® and Windows that run on this hard­ware — without modification — as well as new, powerful 32-bit Windows-based applications. The Windows NT im­plementation of the Windows operating system is a com­plement to the MS-DOS—based version, bringing high-end computing to PC systems.

As a result, the Microsoft Windows NT operating system both protects and extends your software and hardware investment.

All of which reflects Microsoft's commitment to lever­age your organization's investment in the world's most widely-used PC operating systems — MS-DOS and Windows — helping users benefit from on-going advances in the 1990's.

The Windows NT operating system takes advantage of the productive, easy to learn and use Windows graphical environment.

• Runs popular MS-DOS and Windows-based applications on both Intel and RISC based systems without modifica­tion, as well as new 32-bit Windows-based applications.

• Delivers proven productivity through the easy to learn Windows 3.1 user interface.

• Supports 0S/2®-server and POSIX-compliant applica­tions .

• Provides an ideal platform for new high-performance applications and complex processes such as inventory management, financial trading and modeling, publishing, corporate applications development, and technical ap­plications .

# Software Piracy

Software is easy to steal. You don’t have to walk out of a store with a $495 DVD Workshop software box under your shirt. You can simply borrow your friend’s DVD Workshop distribution CDs and install a copy of the program on your computer’s hard disk. It seems so simple that it couldn’t be illegal. But it is.

Piracy takes many forms. End-user piracy includes friends loaning distribution disks to each other and installing software on more computers than the license allows. Although it is perfectly legal to lend a physical object, such as a sweater, to a friend, it is not legal to lend digital copies of software and music because, unlike a sweater that can be worn by only one person at a time, copies of digital things can be simultaneously used by many people.

Counterfeiting is the large-scale illegal duplication of software distribution media, and sometimes even its packaging. According to Microsoft, many software counterfeiting groups are linked to organized crime and money-laundering schemes that fund a diverse collection of illegal activities, such as smuggling, gambling, extortion. Counterfeiting software is sold in retail stores and through online auctions– often the packaging looks so authentic that buyers have no idea they have purchased illegal goods.

Internet piracy uses the Web as a way to illegally distribute unauthorized software. The Business Software Alliance (BSA) estimates that more than 800.000 Web sites illegally sell or distribute software.

In many countries software pirates are subject to civil lawsuits for monetary damages and criminal prosecution, which can result in jail time and stiff fines. Is software piracy really damaging? Who cares if you use a program without paying for it? Software piracy is damaging because it has a negative effect on the economy. Software production fuels economic development of many countries. A BSA economic impact study concluded that lowering global piracy from an average of 36 % to only 26 % would add more than 1 million jobs and $400 billion in worldwide economic growth.

Decreases in software revenues can have a direct effect on consumers, too. When software publishers are forced to cut corners, they tend to reduce customer service and technical support. As a result, you, the consumer, get put on hold when you call for technical support, find fewer free support sites, and encounter customer support personnel who are only moderately knowledgeable about their products. The bottom line – software piracy negatively affects customer service. As an alternative to cutting support costs, some software publishers might build the cost of software piracy into the price of the software.

Some analysts suggest that people need more education about software copyrights and the economic implications of piracy. Other analysts believe that copyright enforcement must be increased by implementing more vigorous efforts to identify and prosecute pirates.

# Computer Viruses

A computer virus is a set of program instructions that attaches itself to a file, reproduces itself, and spreads to other files. The term “computer virus” is often used to refer to any malicious code or software that invades a computer system. The term malicious code (sometimes called “malware”) refers to a program or set of program instructions designed to surreptitiously enter a computer and disrupt its normal work. Many types of malicious code, including viruses, worms, and Trojan horses, are created andunleashed by individuals referred to as “hackers” or “crackers”.

Viruses spread when people distribute infected files by exchanging disks and CDs, sending e-mail attachments, exchanging music on file-sharing networks, and downloading software from the Web. Many computer viruses infect files executed by your computer – files with extensions such as .exe, .com. or .vbs. When your computer executes an infected program, it also executes the attached virus instructions.

A virus can be classified as a file virus, boot sector virus, or macro virus. A file virus infects application programs, such as games. A boot sector virus infects the system files your computer uses every time you turn it on. These viruses can cause widespread damage to your computer files and recurring problems. A macro virus infects a set of instructions called a “macro” – a miniature program that usually contains legitimate instructions to automate document and worksheet production. When you view a document containing an infected macro, the macro virus duplicates itself into the general macro pool, where it is picked up by other documents. In addition to replicating itself, a virus might deliver a payload, which could be as harmless as displaying an annoying message or as devastating as corrupting the data on your computer’s hard disk. A trigger event, such as a specific date, can unleash some viruses. For example, the Michelangelo virus triggers on March 6, the birthday of artist Michelangelo.

A Trojan horse (sometimes simply called a “Trojan”) is a computer program that seems to perform one function while actually doing something else. Trojan horses are notorious for stealing passwords using a keylogger – a type of program that records your key-stroke.

Any software that can automate a task or autonomously execute a task when commanded to do so is called an intelligent agent. Because an intelligent agent behaves somewhat like a robot, it is often called a bot. Like a spider in its web, the person who controls many bot-infested computers can link them together into a network called a botnet. Botnets as large as 400,000 computers have been discovered by security experts.

Antivirus software uses several techniques to find viruses. As you know, some viruses attach themselves to an existing program. The presence of such a virus often increases the length of the original program. The earliest antivirus software simply examined the programs on a computer and recorded their length. A change in the length of a program from one computing session to the next indicated the possible presence of a virus.

To counter early antivirus software, hackers became more cunning. They created viruses that insert themselves into unused portions of a program file without changing its length. Antivirus software developers fought back. They designed software that examines the bytes in an uninfected application program and calculates a checksum. A checksum is a number calculated by combining the binary values of all bytes in a file. Each time you run an application program, antivirus software calculates the checksum and compares it with the previous checksum. If any byte in the application program has changed, the checksum will be different, and the antivirus software assumes that a virus is present.

Today’s viruses, Trojan horses, bots, and worms are not limited to infecting program files, so modern antivirus software attempts to locate them by searching your computer’s files and memory for virus signatures. A virus signature is a section of program code, such as a unique series of instructions, that can be used to identify a known malicious program, much as a fingerprint is used to identify an individual.

## The Three Phases of a Software Engineer

Highly successful software engineers progress through three consecutive phases.

Some software engineers never progress beyond the first phase, and others don’t move beyond the second. Only highly successful software engineers reach the third phase. These three phases are:

1- The Coder

2- The Programmer

3- The Computer Scientist

### **First Phase: The Coder**

Every software engineer begins his career as a coder. This can happen at a very young age.

You don’t even need a college degree to be a coder. So, what is a coder? A coder is someone who knows how to speak the language of a machine. When given a particular problem, a coder knows how to break down that problem into instructions that the machine can understand in order to come up with a solution. Here’s the thing: if you find yourself really struggling at this phase, you may want to consider a different career path.

The coding phase is literally the easiest phase of your CS career. If you succeed at coding, congratulations! You might have a successful career as a software engineer. Unfortunately, many software engineers remain in this phase for their whole career. If you’re just a coder, your pay won’t be great because your skills are easily replaceable. And if you remain just a coder, your promotions will be severely limited. At this stage, you shouldn’t even expect to get an entry-level job at any of the big tech companies. You need to evolve at least to the next phase for this to happen. You need to be a programmer.

### **Second Phase: The Programmer**

Once you have learned the basics of at least two programming languages (preferably one statically-typed and one dynamically-typed), you are a solid coder.

The question now is how do you promote yourself to the programmer status? A programmer is essentially a sophisticated coder. Writing code that does the job is what coders do but writing efficient code that does the job is what programmers do.

Here is a list of some skills that you should have as a programmer:

1- You should know the fundamentals of how any code eventually turns into something that a hardware chip can understand and execute.

2- You should understand that any system has finite compute, storage, and network resources and your software should utilize these resources efficiently.

3- You should know how to use data structures and algorithms to write efficient code.

4- You should understand what makes code efficient and what doesn’t.

5- You should understand that quality is important and that testing your code is crucial.

This is not the end. There is still a long way to go on your career path. There are a lot of coders out there, but there aren’t a lot of solid programmers. If you really master this phase, you can easily secure a job at one of the big tech companies like Google, Facebook, Amazon, and others. In fact, most of the interviews conducted at these companies test how good of a programmer, not how good of a coder, you are. The vast majority of software engineers retire at this phase.

### **Third Phase: The Computer Scientist**

Learning does not stop after mastering the programming phase. As a matter of fact, it actually starts here! When you are at the computer scientist phase, you’re essentially an architect who thinks about the big picture more than the nitty gritty details.

You have a solid understanding of designing large distributed systems and you know how to build scalable systems that can handle large loads and tolerate failures.

A computer scientist also never stops learning, and always tries to stay up to date with the latest in technology.

At this level, you’ll most likely be in charge of big projects and you’ll be managing a team (usually of coders and solid programmers) to get the job done. You might also need to cooperate with other teams. All of these require stellar social and leadership skills.

**Экзамен**

Перечень примерных вопросов для подготовки к экзамену.

**Форма экзаменационного билета**

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| --- | --- | --- |
| МИНОБРНАУКИ РФ  Федеральное государственное бюджетное  образовательное учреждение  высшего профессионального образования  Забайкальский государственный университет»  (ФГБОУ ВПО «ЗабГУ») | |  |
| Экзаменационный билет № 1  по дисциплине английский язык  специальность ПИ |
| 1. | Read and translate the text 1a. | |
| 2. | Read and reproduce the text 1b. | |
| 3. | Speak on the topiс. | |
| Билет составила \_\_\_\_\_\_\_\_\_\_\_\_Е.Г. Поликанова  «\_\_\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_ 2012 г. | | Утверждаю:  Зав. кафедрой ин. языков \_\_\_\_\_\_\_ С. Е. Каплина  «\_\_\_\_\_» \_\_\_\_\_\_\_\_\_\_\_\_ 2012 г. |

**Exam question 1a**

MEMORY OPERANDS

Instructions with explicit operands in memory must reference the segment containing the operand and the offset from the beginning of the segment to the operand. Segments are specified using a segment-override prefix, which is a byte placed at the beginning of an instruc­tion, if no segment is specified, simple rules assign the segment by default. The offset is specified in one of the following ways:

1. Most instructions which access memory contain a byte for specifying the addressing method of the operand. The byte, called the mod R/M byte, comes after the opcode and specifies whether the operand is in a regis­ter or in memory. If the operand is in memory, the address is calculated from a segment register and any of the following values: a base register, an index register, a scaling factor, and a displacement. When an index register is used, the modR/M byte also is fol­lowed by another byte to specify the index register and scaling factor. This form of addressing is the most flexible.

2. A few instructions select segments by default:

A MOV instruction with the AL or EAX register as either source or destination can address memory with a double-word encoded in the instruction. This special form of the MOV instruction allows no base register, index register, or scaling factor to be used. This form is one byte shorter than the general-purpose form.

String operations address memory in the DS segment using the ESI register, (the MOVS, CMPS, OUTS, LODS, and SCAS instructions) or using the ES segment and EDI register (the MOVS, CMPS, INS, and STOS instructions).

Stack operations address memory in the SS segment using the ESP register (the PUSH, POP, PUSHA, PUSHAD, POPA, POPAD, PUSHF, PUSHFD, POPF, POPFD. CALL. RET, IRET, and IRETD instructions, exceptions, and inter­rupts).

**Оформление письменной работы согласно МИ 01-02-2018**

<http://zabgu.ru/files/html_document/pdf_files/fixed/Normativny'e_dokumenty'/MI__01-02-2018_Obshhie_trebovaniya_k_postroeniyu_i_oformleniyu_uchebnoj_tekstovoj_dokumentacii.pdf>

**Учебно-методическое и информационное обеспечение дисциплины**

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**Базы данных, информационно-справочные и поисковые системы**

<http://en.wikipedia.org/wiki/Main_Page>

<http://study-english.info/annotation.php>

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