

С.И. ГАРАГУЛЯ

**АНГЛИЙСКИЙ ЯЗЫК
ДЛЯ СТУДЕНТОВ, ИЗУЧАЮЩИХ
ИНФОРМАЦИОННЫЕ ТЕХНОЛОГИИ**

**ENGLISH
FOR IT STUDENTS**

УДК 802.0
ББК 81.2Англ
Г20

Р е ц е н з е н т ы:

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Гарагуля С.И.

Английский язык для студентов, изучающих информационные технологии. English for IT Students: Учебник. – 448 с.

Основная цель предлагаемого учебника, имеющего профессионально-коммуникативную направленность, состоит в развитии у студентов умения читать и переводить оригинальную литературу по специальности, в углубленном изучении терминологической лексики, используемой в сфере информационных технологий, а также в совершенствовании навыков устной речи, аудирования и письма. Особое внимание уделяется изучению грамматических структур базового курса английского языка и их тренировке.

Предназначен для студентов бакалавриата, обучающихся по направлениям подготовки «Информатика и вычислительная техника», «Информационные системы и технологии», «Прикладная информатика» и «Программная инженерия». Может быть рекомендован магистрантам, проходящим подготовку по данным направлениям, а также широкому кругу лиц, имеющих базовые знания английского языка и интересующихся актуальными проблемами, связанными с информационными и компьютерными технологиями.

ПРЕДИСЛОВИЕ

Настоящий учебник адресован студентам бакалавриата, обучающимся по направлениям подготовки 09.03.01 «Информатика и вычислительная техника», 09.03.02 «Информационные системы и технологии», 09.03.03 «Прикладная информатика» и 09.03.04 «Программная инженерия». Он может быть полезен магистрантам, проходящим подготовку по данным направлениям, а также широкому кругу лиц, имеющих базовые знания английского языка и интересующихся актуальными проблемами, связанными с информационными и компьютерными технологиями.

Учебник подготовлен на базе Федерального государственного образовательного стандарта высшего профессионального образования в соответствии с требованиями программы курса иностранного языка для неязыковых вузов.

Основная цель предлагаемого учебника, имеющего профессионально-коммуникативную направленность, состоит в развитии у студентов умения читать и переводить оригинальную литературу по специальности, в углубленном изучении терминологической лексики, используемой в сфере информационных технологий, а также в совершенствовании навыков устной речи, аудирования и письма. Особое внимание уделяется изучению грамматических структур базового курса английского языка и их тренировке.

Учебник состоит из 12 уроков-тем (*Units*), трех приложений (*Appendices*) – «Дополнительное чтение» (*Supplementary Reading*), «Тексты, записанные на аудионосители» (*Tapescripts*) «Грамматический справочник» (*Grammar Reference*) и «Англо-русского учебного словаря» (*English-Russian Vocabulary*). Урок-тема, посвященный конкретной информационно-технологической проблематике, имеет определенную структуру: он включает шесть разделов (*Sections*) – «Грамматика» (*Grammar Practice*), «Лексика» (*Vocabulary and Word Study*), «Чтение и дискуссия» (*Reading and Discussion*), «Устная речь» (*Speaking*), «Аудирование» (*Listening*) и «Письменная речь» (*Writing*).

В разделе *Grammar* представлены коммуникативно-ориентированные задания, нацеленные на развитие грамматиче-

ских навыков понимания и перевода специальных текстов, создание и воспроизведение высказываний на английском языке. Грамматический материал включает явления, характеризующиеся высокой частотностью употребления в научно-техническом дискурсе. Прежде всего, это относится к структуре предложения, видовременным формам глагола в действительном и страдательном залоге, модальным глаголам, неличным формам глагола и др. К большинству упражнений даны образцы выполнения. В приложении 3 *Grammar Reference* имеется поурочный грамматический комментарий, который дает возможность при необходимости обучающемуся повторить или изучить грамматические явления, вызывающие определенные трудности в употреблении.

Раздел *Vocabulary and Word Study* предусматривает работу над профессионально-ориентированной лексикой, определяемой содержанием текстов в пределах изучаемой темы. На осмысленное закрепление активного словаря, который отражает наиболее частотные слова и словосочетания, представленные в литературе по информационным технологиям, нацелена соответствующая система упражнений, построенных и расположенных по принципу «от простого к сложному» – от уровня слова, словосочетания, предложения до уровня сверхфразового единства. Имеются задания на многозначность, нахождение синонимов и антонимов, определение значений именных словосочетаний с препозитивными определениями, узнавание интернациональных слов и терминов, словообразование и т.д. Для снятия произносительных трудностей активная лексика снабжена транскрипцией. Выполнение данных упражнений обеспечивает усвоение активного словаря в полном объеме.

Каждый раздел *Reading and Discussion* содержит два текста, посвященных определенной теме. Среди тем – информационные технологии как учебная дисциплина, профессии в сфере информационных технологий, компьютерные системы, периферийное оборудование, программирование, структура сети Интернет и др. Первый текст (*Text A*) рассматривается в качестве основного текста урока и предназначен для изучающего чтения. К нему даются предтекстовые и послетекстовые упражнения. Предтекстовые задания преследуют цель формирования навыков прогнозирования и умения вести беседу общего содержания по проблематике

урока. Упражнения послетекстового этапа способствуют развитию монологической речи в виде сообщения или доклада – констатировать факт или обосновать и выразить собственное мнение, сделать короткое сообщение или обобщение. К данному тексту предусмотрено задание на чтение определенного абзаца вслух. Второй текст (*Text B*) предназначен для развития навыков ознакомительного, просмотрового или поискового чтения. Упражнения к этому тексту направлены на осуществление контроля понимания, определение его основной темы или идеи, поиск конкретных данных, применение определенной информации в соответствии с коммуникативными задачами. Дополнительной целью работы над текстами *A* и *B* является расширение общеупотребительного вокабуляра обучающихся, а также тренировка грамматических структур урока. Выбор определенных абзацев или частей текстов для перевода определяется языковыми трудностями, которые могут возникнуть у студентов при чтении специальной литературы.

Задания раздела *Speaking* нацелены на развитие умений диалогической и монологической речи. Представленный языковой материал содержит устойчивые выражения, речевые модели и клише, характерные для неофициального и официального общения в учебной и профессиональной сферах: учеба в университете, участие в научной студенческой конференции, проведение презентации, использование компьютера, компьютерные проблемы, программное обеспечение и др. Упражнения, составленные к диалогам, построены по принципу моделирования различных ситуаций, они также способствуют развитию навыков давать на них быструю и соответствующую речевую реакцию.

В разделе *Listening* представлены задания к двум аудиотекстам, которые приводятся в приложении 2 (*Tapescripts*). Они могут быть прочитаны преподавателем или звучать в записи. Небольшие по объему тексты монологического характера непосредственно связаны с темой урока. Контроль понимания осуществляется с помощью вопросно-ответных упражнений, путем заполнения таблиц/схем и др. Цель заданий состоит в понимании общего смысла прослушанного текста, нахождении или извлечении конкретной информации, которые служат основой для краткого изложения содержания аудиотекста, дискуссии по теме и т.д. К

приложению *Tapescripts* обучающиеся обращаются на заключительном этапе работы над разделом *Listening*, что позволяет им проверить правильность понимания текста, а также выявить непонятные фрагменты, выписав и выучив незнакомые слова.

Упражнения раздела *Writing* направлены на развитие навыков передачи на английском языке и правильного оформления информации в соответствии с коммуникативными целями и с учетом адресата – написание электронных писем и факсов, заполнение наиболее распространенных анкет и бланков, оформление резюме и сопроводительного письма, необходимых для приема на работу или учебы за границей, а также составление рефератов, аннотаций и др.

Приложение 1 *Supplementary Reading* включает оригинальные тексты из современной британской и американской литературы по информационным технологиям для дополнительного чтения о современных тенденциях в данной дисциплине. Они способствуют расширению не только профессионального, но и общего кругозора студентов. Данные тексты могут быть использованы как для работы в группе, так и для самостоятельной работы.

В конце книги дается «Англо-русский учебный словарь», охватывающий как терминологическую лексику, так и общеупотребительные слова и словосочетания, содержащиеся в текстах уроков.

Автор выражает искреннюю признательность рецензентам – доктору филологических наук, профессору Софье Ахметовне Моисеевой за ценные методические рекомендации и критические замечания, а также доктору технических наук, профессору Василию Григорьевичу Рубанову за консультации по отбору текстового материала для данного учебника.

Автор

UNIT 1

STUDYING INFORMATION TECHNOLOGY



Section 1. Grammar Practice:

Word Order. *To be* and *to have (got)* in the Present, Past and Future Simple. Construction *there + to be*. Indefinite and Negative Pronouns, Their Derivatives. Prepositions of Place, Direction and Time. Quantifiers: *much, many, (a) few, (a) little, a lot of*. Numerals.

Section 2. Vocabulary and Word Study:

Nouns as Attributes in Preposition (*Noun(s) + noun* Structures).

Suffixes: *-er/-or; -ment; -ion/-ation/-ition/-sion/-tion*.

Section 3. Reading and Discussion:

Text 1A. Information Technology.

Text 1B. Information Technology as an Academic Discipline.

Section 4. Speaking:

The University I Go To.

Section 5. Listening:

1A. The Advantages of Information Technology.

1B. The Disadvantages of Information Technology.

Section 6. Writing:

E-mails.

SECTION 1 GRAMMAR PRACTICE

1. Put these words in the correct order and write the statements (*See Grammar Reference 1.1.*). Use a capital letter to begin each sentence. Mark each rewritten sentence S V O M P T to show Subject, Verb, Object, Manner (How?), Place (Where?), Time (When?) (*See Grammar Reference 1.1.*).

Example

yesterday, Bob, a computer, bought. – (S) Bob (V) bought (O) a computer (T) yesterday.

1. today, is, very, English, important, the knowledge, of. 2. well, Ivan, English, speaks. 3. in, tomorrow, will, Moscow, be, she. 4. begin, at 9 o'clock, in the morning, the classes. 5. use, for many, they, computers, different purposes. 6. from the university, will, a programmer, he, be, after graduation. 7. old, very, mathematics, science, is, a. 8. the knowledge of, today, is, very, English, important. 9. the term, attend, during, and, lectures, seminars, students. 10. every, year, leave, schools, millions, secondary, of, children.

2. Read these stories and arrange the words in each sentence in the right order. Add capital letters in the right place.

A. The Student Bob Smith.

1. is, his, Smith, name, Bob.
2. from, he, Dundee, comes.
3. Scotland, is, the east, a town, it, coast, on, of.
4. a student, University, he, the north, at, is, in, of, Durham, England.
5. studying, he, and, is, French, German.
6. languages, well, can, quite, he, the, speak.
7. Spanish, he, little, also, a, knows.
8. speak, so, can, languages, he, four.
9. course, enjoying, he, lot, is the, a.
10. hard, it, work, very, is.
11. started ago the two course years.
12. third is his he year in.
13. France, he, the, to work, after, going, course, is, in.
14. know, yet, however, doesn't, where, he.

B. Distance Learning Student.

1. three, had, now, Igor, for, years, a computer, has, about.
2. information, is, in, he, technology, a degree, doing.
3. full, he, time, works.
4. studies, the evenings, weekends, at (2), in, so, and, home, he.
5. Saturdays, tutorials, town, there, some, can, are, attend, he, in.

6. mostly, alone, however, works, he.
7. the computer, assignments, to write, uses, his, he.
8. some, work, sometimes, with, has, course, problems, he, his.
9. the Internet, tutor, so, uses, to email, he, his.
10. too, a, there, the Web, group, a help, on.
11. doing, made up, students, the group, other, is, course, of, his.
12. here, country, they, this, are not, in.
13. around, they, world, are, the.
14. about, can, assignments, chat, they.
15. difficulty, each, they (2), if, help, in, other, are.

3. Complete these sentences. Use *am/is/are*, *was/were* or *will be* (See Grammar Reference 1.2.).

1. I ___ Russian. She ___ American. 2. We ___ hungry after the journey but we ___ not tired. 3. Today the weather ___ fine but yesterday it ___ cold. 4. George ___ not at university last week because he ___ ill. 5. We ___ in the classroom now. 6. I ___ 18 years old now. 7. She ___ at the seminar tomorrow. 8. Yesterday three students ___ absent at the English class. Today all ___ present. 9. Michael travels a lot. Today he ___ in Moscow. Tomorrow he ___ in Saint Petersburg. Next week he ___ in London. 10. I ___ late for my classes tomorrow. 11. A.S. Pushkin ___ born in 1799. 12. My brother and I ___ at home now. 13. I ___ ready in ten minutes. 14. It's Nick's birthday next Friday. He ___ 17.

4. Supply negative forms of the verb *to be*.

1. These classes ___ interesting, are they? 2. I'm right, ___ I? 3. You're good at mathematics, ___ you? 4. She's a brilliant speaker, ___ she? 5. We're late again, ___ we? 6. They're at university, ___ they? 7. He ___ at the party, was he? 8. You were angry, ___ you?

5. Complete these sentences. Use *have (got)/has (got)*, *had* or *will have* (See Grammar Reference 1.3.).

1. My brother ___ four classes yesterday. 2. Their house is big. They ___ two bedrooms, a sitting-room, a dining room, a kitchen and

a bathroom. 3. The university ____ a lot of computer rooms. 4. Mary ____ two children. The girl's name is Ann, the boy's name is John. 5. I think she ____ her exams next year. 6. My brother's children ____ a lot of toys. But their favourite one is a brown teddy bear. 7. I think his father ____ a car very soon. 8. Last Sunday we ____ a very good party.

6. Supply negative forms of the verb *to have* (got).

1. You've got a new computer, ____ you? 2. He ____ any faith in him now. 3. I ____ good marks in English last term. 4. They ____ any classes tomorrow. 5. Sam ____ lunch in the university canteen now. 6. We ____ new teachers this year. 7. My friends ____ I had a good time at the party last Sunday. 8. The school ____ a computer centre next year.

7. Make general questions with these words in the correct order and give short positive/negative answers to them.

a) Use *is/are/was/were/will...be*.

1. (your parents/well?) 2. (interesting last year/your job?) 3. (the shops/open next week?) 4. (interested in English at school/you?) 5. (near here/ the students' hostel?) 6. (at the university at 3 o'clock tomorrow/ your classmates?) 7. (large/your university?) 8. (free tomorrow/you?) 9. (at home at 5 o'clock yesterday/your fellow student?) 10. (in the centre of the city/the library?)

b) Use *have...got/has...got/do...have/does...have, did... have/will have*.

Example: (John/a passport?) – Has John got a passport? – Yes, he has. / No, he hasn't.

or: Does John have a passport? – Yes, he does. / No, he doesn't.

1. (your father/a car?) 2. (you/good marks?) 3. (Charles/many problems?) 4. (he/a letter from home?) 5. (they/any children?) 6. (this house/a nice garden?) 7. (you /any brothers?) 8. (the university/a computer centre?) 9. (she/black hair?) 10. (they/much time?)

8. Make questions with *what (what colour)/who/how much/how old/how often/where/why/when*.

a) Use *am/is/are/was/were/will...be*.

1. ____ the bus stop? – At the end of the street. 2. ____ he ____ next week? – In London. 3. ____ the man in this photograph? – That's the dean of the faculty. 4. ____ your favourite subject at school? – English. 5. ____ your friend ____ at five o'clock tomorrow? – At the university. 6. ____ your children last year? – Five, six and ten years old. 7. ____ your new shoes? – Black. 8. ____ your lecturer angry with you yesterday? – Because I was late. 9. ____ George ____ at the cinema tomorrow? – In the evening. 10. ____ these oranges? – \$ 1.50 a kilo.

b) Use *have...got/has...got, do...have, does...have, did...have, will...have*.

1. ____ you ____ a computer? – Next year. 2. ____ he ____ many friends last summer? – In England. 3. ____ she ____ a holiday next time? – In summer. 4. ____ brothers and sisters ____ she ____ ? – Just one brother. 5. ____ money ____ you ____ now? – \$ 100. 6. ____ she last ... her exam? – Yesterday. 7. ____ they usually ____ many flowers in the garden? – In summer. 8. ____ you ____ dark glasses on yesterday? – Because there was something wrong with my eyes.

9. Read and translate the following sentences into Russian paying attention to the construction *there + to be*. Use them in the negative and interrogative forms (See Grammar Reference 1.4.).

1. There are a lot of lecture rooms in our university. 2. There is a computer classroom at the department of computer science. 3. There are twelve units in this course book. 4. There will be many students at the conference tomorrow. 5. There were many books on IT in the university library. 6. There is a Dean's office, two lecture rooms and three classrooms on the first floor of the university. 7. There was a bus stop not far from the university. 8. There are a few desks for students in the middle of the room. 9. There will be thirty students in our group next year. 10. There were ten mistakes in his test.

10. Make up sentences with the construction *there + to be*.

a) in the Present Simple (*There is/are... .*):

an information technology department, a student, many clubs, two canteens, many computers, a Dean's office, three entrance examinations, a distance learning course, end-of-term tests and examinations, two vacations;

b) in the Past Simple (*There was/were... .*):

lectures and seminars, a discussion, an English course book, some new lecturers, different subjects of general nature, first-year students, a forty-five minute break, a university library, two dormitories;

c) in the Future Simple (*There will be... .*):

new computers, a lecture on computer science, a laser printer, developments in information technology, social activities, two vacant hotel rooms, a conference, six scanners, many degree courses.

11. Read and translate the following sentences paying attention to the pronouns *some, any, no* and their compounds (*See Grammar Reference 1.5.*).

a) 1. Kate has got some old pictures of the house to show us. 2. Mary has got some beautiful jewellery, but she never wears it. 3. There is somebody waiting for us at the reception. 4. There is something strange about the way Pete is acting today. 5. Someone had a good idea. 6. They will have some new lecture courses. 7. I have these lecture notes somewhere at home. 8. Any section of this unit is very important. 9. She said something to me but I didn't understand it. 10. Shall I bring you something to read while you wait?

b) 1. Have you got any free time on Wednesday afternoon? 2. Has Eve got any brothers or sisters, do you know? 3. Will there be any lectures tomorrow? 4. Is there anybody in the lecture room? 5. Is anyone familiar with this system? 6. Do you know anything about economics? 7. Were you anywhere yesterday? 8. Was there any difficulty in doing this exercise? 9. Is there anything we should bring to the meeting? 10. Are there any computers in this classroom?

c) 1. He is married but he hasn't got any children. 2. It's dark. I can't see anything. 3. Jane doesn't speak any foreign languages. 4. No newspaper tells the whole truth. 5. "My students expect me to know everything." "Nobody knows everything." 6. I'm afraid I can't help you. There is nothing I can do. 7. His report wasn't printed anywhere. 8. There wasn't anybody who had a laser printer at home. 9. All the hotels were full. There was nowhere to stay. 10. No one was absent from the lecture.

12. Translate the Russian indefinite and negative pronouns in brackets into English.

1. There is (*кто-то*) at the door. Can you go and see who it is? 2. Have you got (*что-нибудь*) important to say? 3. When we were on holiday, we visited (*несколько*) very interesting places. 4. Do you know (*какие-нибудь*) good hotels in London? 5. (*Любой*) student in my group knows this grammar rule. 6. I heard a knock at the door but when I opened it there was (*никого*) there. 7. (*Никакой*) translation is correct. 8. Is (*кто-нибудь*) ready to do this job? 9. There is (*ничего*) in this box. It is empty. 10. She was (*нигде*) during her holidays.

13. Complete the sentences with the correct preposition of place given in brackets (See Grammar Reference 1.6.).

1. There is a woman ____ the house. (*under, above, on, in*) 2. There are leaves ____ the tree. (*above, in, on, between*) 3. The dog is ____ the tree. (*behind, between, on, in*) 4. The bird is ____ the house. (*under, above, among, across*) 5. The flowers are ____ the house. (*among, under, in front of, between*) 6. The flowers are ____ the girl and the boy. (*among, between, under, by*) 7. Don't sit ____ the grass. It's wet. (*in, under, at, on*) 8. I heard the doorbell. There's somebody ____ the door. (*in, on, at, over*) 9. What have you got ____ your bag? (*in, on, at, above*) 10. Look! There's a man ____ the roof. What's he doing? (*in, at, between, on*)

14. Complete the sentences with the correct preposition of direction given in brackets.

1. She is going ____ Italy next month. (*into, to, out of, down*) 2. He put his pencil ____ his bag. (*into, in, to, out of*) 3. A man came ____ the house. (*from, up, through, out of*) 4. Be careful! Don't fall ____ the stairs. (*up, along, down, into*) 5. A bird flew into the room ____ a window. (*down, through, to, towards*) 6. The boy got ____ a car very quickly. (*to, in, through, into*) 7. We decided to walk ____ the station. (*into, out of, to, through*) 8. How far is it ____ here to the airport? (*into, from, to, down*)

15. Complete the sentences with the correct preposition of time given in brackets.

1. I am leaving ____ Monday. (*in, at, since, on*) 2. I always feel tired ____ the evening. (*on, in, at, till*) 3. Mary was born ____ 1982. (*at, on, in, by*) 4. I'm going out. I'll be back ____ two hours. (*in, on, at, before*) 5. I don't often go out ____ night. (*in, at, on, till*) 6. Where were you ____ 15 May? (*in, since, at, on*) 7. I got up ____ 7 o'clock this morning. (*in, on, at, by*) 8. My brother got married ____ June. (*on, at, in, by*) 9. Did you go out ____ Friday evening? (*in, on, at, for*) 10. I often go to the country ____ the weekend. (*since, during, on, at*) 11. Ed isn't here ____ the moment. (*at, in, since, on*) 12. I'll send you the money ____ the end of the month. (*on, in, at, after*) 13. She has been in hospital ____ Tuesday. (*on, since, from, before*) 14. My friend will be away ____ Wednesday. (*on, after, in, until*) 15. My brother stayed with us ____ five days. (*during, before, for, after*) 16. The film was very boring. We left ____ the end. (*until, in, during, before*) 17. We were very tired ____ our visit to the museum. (*while, at, after, on*) 18. Next week I'm going to London ____ seven days. (*since, for, from, after*)

16. Complete the sentences of the story using the prepositions of time, place and direction.

I am an undergraduate student. I am doing a Bachelor's degree ____ information technology. I was admitted ____ university ____ 2016. It is situated ____ the centre ____ the city. I live ____ the hall of residence. I go ____ university ____ weekdays. My classes and seminars begin ____ 9 o'clock ____ the morning that is why I have to get up ____ 7 o'clock. I don't have any classes ____ Sundays. I take term examina-

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tions ____ January and June. I don't study ____ summer. I come ____ the classroom and sit down ____ the desk. I take my course books and copybooks ____ my bag and put them ____ the desk. My pen is ____ the desk too. Sometimes my bag is ____ the desk ____ the floor. ____ the lesson I go ____ the blackboard and write some sentences ____ it. When my lessons are over, I leave the classroom and go ____ the canteen to have lunch. Then I go home. I usually come back ____ university ____ 3 o'clock ____ the afternoon.

17. Read and translate the following sentences paying attention to the use of the quantifiers *much, many, (a) little, (a) few* (See Grammar Reference 1.7.).

1. There are many differences between British English and American English. 2. In Ireland there are only a few areas where people speak the native Irish language. 3. Communicating with English-speaking people will help a lot. 4. A little leaning is a dangerous thing. 5. Few teenagers in the village could read. 6. The United Kingdom invests a lot of money in the English Language teaching. 7. I only need a few minutes to get ready. 8. Paula hasn't got much money. 9. It is a long and slow process that takes a lot of time. 10. Many drank little coffee and no alcohol. 11. I wasn't very hungry. I didn't eat much. 12. Your English is very good. You make very few mistakes.

18. Read the following sentences and translate the quantifiers in brackets into English.

1. I don't read very (*много*). I haven't got (*много*) books. 2. I'd like to practise my English more but I have (*мало*) opportunity. 3. I don't drink (*много*) coffee. 4. This town is not a very interesting place to visit, so (*мало*) tourists come here. 5. Can I have (*немного*) milk in my coffee, please? 6. There are (*мало*) buses after 9 o'clock. 7. Can you lend me (*несколько*) dollars? 8. There wasn't (*много*) furniture in the room – just a table and (*несколько*) chairs. 9. She speaks English (*немного*). 10. We've got (*мало*) time.

19. Read the following numerals in English (*See Grammar Reference 1.8.*).

a) 6; 14; 3; 13; 20; 41; 17; 11; 12; 30; 73; 116; 202; 937; 598; 10; 325; 573; 6,000,000; 1.012; 0.74; 3.5; 1/2; 1/4; 2/3; 1 1/2; 2 6/7.

b) 2,003 books; 408 students; 3,790 experts; 4,300,000 people; 637 miles; 2,324 kilometres; 738 roubles; on page 231; in room 143.

c) on the 2nd of June; on February 17th, 1954; on November 10th, 2003; at the end of 1678; in 1904; at the beginning of 2017.

d) 3.7 tons; 3.67 kilograms; 2/3 of a kilometer; 0.3 mile.

20. Translate the following numerals into English.

a) первый, второй, третий, пятый, восьмой, десятый, двадцать первый, сорок восьмой, сотый, две тысячи третий;

b) 11 июня 1978 года, 8 марта 1983 года, 16 февраля 1998 года, к 31 декабря 2001 года, к 17 августа 1905 года, в июле 1964 года, в 1812 году, в 1945 году, в 2016 году;

c) 17 км; 267 тысяч рублей; 15 миллионов людей; 5500 студентов; 7630 автомобилей; 639545 книг; 16 слов; 45 часов; 15 комнат; 50 страниц; 2,5 мили; 0,5 кг.

21. Answer the following questions.

1. How many days are there in July? 2. How many months are there in a year? 3. How many students are there in your group/at your department/in the University? 4. Which month of the year is April/July/September/December? 5. When was your home town founded? 6. What is the date today? 7. When were you born? 8. When was your Mum/Dad/sister/brother born? 9. What is the population of Russia? 10. What dates are important in the history of this country?

SECTION 2 VOCABULARY AND WORD STUDY

22. Read and memorize the active vocabulary to the texts of Unit 1 and translate the given sentences.

1. **access** ['æksəs] *n v* – доступ, обращение (*напр.* к базе данных); иметь доступ, получить доступ.

You need a password to get *access* to the computer system. He used a browser *to access* a website.

2. **advantage** [əd'va:ntidʒ] *n* – преимущество; выгода, польза
take advantage of smth – воспользоваться чем-л.

disadvantage [,disəd'va:ntidʒ] *n* – недостаток; ущерб; невыгодное положение

Internet connection via broadband offers many *advantages*. Each of these systems has its *advantages* and *disadvantages*. Whichever option we choose there will be *disadvantages*. I thought I would *take advantage of* the sports facilities there.

3. **apply** [ə'plai] *v* – использовать, применять; прилагать, прикладывать

application [ˌæpli'keiʃn] *n* – приложение, прикладная программа (*сокр.* **app**); применение, использование

application program – прикладная программа, приложение

interactive application – интерактивное приложение; интерактивная прикладная программа

run an application – запустить (использовать) приложение

Scientific discoveries *are* often *applied* to industrial processes. This invention will have a wide range of *applications* in industry. This operating system can integrate other *applications*. *Application programs* use the services of the computer's operating system and other supporting programs. On other operating systems, finding good *apps* can be even more difficult. Check this option if you want *to run the application* with a different priority. You can *run* several *applications* at the same time.

4. **available** [ə'veiləbl] *adj* – доступный; имеющийся в наличии, наличный

availability [ə'veilə'biliti] *n* – доступность; наличие; готовность; возможность использования

The book you ordered is not *available*. Is the manager *available* just now? We estimate the relationship between students' educational achievement and *the availability* and use of computers at home and at school.

5. **contribute** [kən'tribju:t] *v* – способствовать, содействовать; делать вклад

contribution [ˌkɒntriˈbjʊːʃ(ə)n] *n* – вклад; содействие

make a contribution to smth – сделать вклад во что-л.

This book *contributes* little to our understanding of the subject.
He *made* a very positive *contribution to* the success of the project.

6. **data** [ˈdeɪtə] *n* – данные; информация; сведения

database [ˈdeɪtəbeɪs] *n* – база данных

The computer can manipulate massive amounts of *data*. We are trying to create our own computerized *database*.

7. **develop** [diˈveləp] *v* – разрабатывать, развивать, совершенствовать

developer *n* – разработчик

development *n* – разработка, развитие, совершенствование

under development – (находящийся) в процессе разработки

The company is spending \$650 million on *developing* new products/technology. The course is designed *to develop* your writing skills. The company is a leading software *developer*. The company was at the forefront of computer *development*. The new system is still *under development*.

8. **digit** [ˈdɪdʒɪt] *n* – цифра; разряд

digital [ˈdɪdʒɪtl] *adj* – цифровой

digital form – цифровая форма

analog [ˈænəlɒɡ] **form** – аналоговая форма

The number 345 contains three *digits*. Converting an entire CD to *digital* format and downloading it to an MP3 player takes only about 10 to 15 minutes. Telephone lines carry data in *analog* form.

9. **dimension** [daɪˈmenʃn] *n* – размер; величина; объем

give a dimension to smth – придавать размах (масштаб) чему-л.

take the dimensions of smth – измерить что-л.

A room has three spatial *dimensions*: length, height and width. Computer design tools work in three *dimensions*. This *gives* an important international *dimension to* the project.

10. **distribute** [diˈstrɪbjʊːt] *v* – распределять, распространять

distribution [ˌdɪstriˈbjʊːʃn] *n* – распределение, распространение

Viruses *are* often *distributed* via email. We have many *distribution* channels for our software, including electronic *distribution*.

11. **diverse** [dai'və:s] *adj* – разнообразный, разный
diversity [dai'və:siti] *n* – разнообразие, многообразие

My interests are very *diverse*. There is a wide *diversity* of views on this subject.

12. **emerge** [i'mə:dʒ] *v* – появляться, возникать
emergence [i'mə:dʒ(ə)ns] *n* – появление, возникновение

The Internet *emerged* in the United States in the 1970s. This can lead to *the emergence* of new technologies.

13. **equal** ['i:kwəl] *adj v* – равный, одинаковый; равняться
equally *adv* – в равной степени; равным образом, одинаково

There is an *equal* number of boys and girls in the class. Five and five *equals* ten. This job could be done *equally* well by a computer.

14. **hardware** ['ha:dweə] *n* – (аппаратное) оборудование, аппаратные средства; железо, технические средства, техническое обеспечение

software ['sɒftweə] *n* – программное обеспечение

application software – прикладное программное обеспечение

system software – системное программное обеспечение

The hardware inside the machine expresses arithmetical and logical relations. Can you load the new *software* for me?

15. **involve** [in'vɒlv] *v* – быть связанным, вовлекать

involvement [in'vɒlvmənt] *n* – вовлечение

The test *involves* simple calculations, such as addition and subtraction. The project needs full *involvement* from all members of the group.

16. **maintain** [mein'tein] *v* – обслуживать; содержать в исправности; поддерживать, удерживать, сохранять

maintenance ['meint(ə)nəns] *n* – текущее обслуживание; текущий ремонт; (техническое) обслуживание; эксплуатация (системы); сопровождение (*напр.* системы программного обеспечения); подержание, сохранение

The company has done a poor job of *maintaining* its computer network. A large house costs a lot *to maintain*. Our principle task is *to maintain* law and order. The network will be down for an hour for routine *maintenance*. The purpose of the UN is *the maintenance* of international peace and security.

17. **medium** ['mi:diəm] (*pl.*) **media** *n* – средство, способ; среда
Television can be *a medium* for giving information and opinions.

18. **perform** [pə'fɔ:m] *v* – выполнять, производить
performance [pə'fɔ:məns] *n* – выполнение, исполнение; работа, функционирование; (рабочая) характеристика; производительность

We usually ask interviewees *to perform* a few simple tasks on the computer just to test their aptitude. This device improves the system *performance*.

19. **process** ['prəuses] *n v* – процесс, способ, метод; обрабатывать; перерабатывать

processing *n* – обработка; технологический процесс, технология

data processing – обработка данных

word processing – обработка текстов

processor *n* – процессор (аппаратное устройство или обрабатывающая программа); узел обработки

word processor – текстовый процессор (программа подготовки и редактирования текста)

It is a normal part of the learning *process*. His job is to develop new products and *processes*. The image *is processed* digitally by computer software. The berries *are processed* into juice. We've got a computer but I only use it for word *processing*. What *word processor* do you have on your computer?

20. **retrieve** [ri'tri:v] *v* – отыскивать; извлекать (информацию)

retrieval *n* – поиск; извлечение (информации)

data retrieval – поиск данных; извлечение данных

Computers are used to store and *retrieve* information efficiently. The system allows quick storage and *retrieval* of data.

23. Match the words on the left with their definitions on the right.

- | | |
|--------------|---|
| 1. medium | the process of getting back information |
| 2. digit | computer programs |
| 3. retrieval | part of a computer controlling all its operations |

- | | | |
|-----|-------------|---|
| 4. | maintenance | physical and electronic parts of a computer |
| 5. | application | information in a form that a computer can use |
| 6. | software | a way of communicating or expressing smth |
| 7. | hardware | the work done to keep smth in good condition |
| 8. | database | a computer program for a particular purpose |
| 9. | processor | any of the numbers from 0 to 9 |
| 10. | data | information stored in a computer system |

24. Combine nouns from the left and right to form phrases.

- | | |
|-----------------|--------------|
| 1. distribution | a) processor |
| 2. analog | b) software |
| 3. word | c) program |
| 4. application | d) retrieval |
| 5. data | e) channel |
| 6. system | f) form |

25. Find the best verb in the box to complete each of the sentences.

process	contribute	take (2)	distribute	apply
make	run	access	involve	

1. Many schools don't _____ full advantage of the Internet. 2. The database allows you to _____ the sales figures in a number of ways. 3. Computers _____ data as it is received. 4. She managed to _____ a significant contribution to scientific knowledge. 5. It is important to _____ the exact dimensions of the room. 6. The job will _____ working with a software development team. 7. It was a real team effort – everyone managed to _____ something to the success of the project. 8. He wants a job in which he can _____ his foreign languages. 9. There are different ways you can use to _____ any program or application as an administrator in Windows. 10. They will _____ copies of the book free to each school in the district.

26. Insert the correct word from the Active Vocabulary.

1. The problems with this device are now beginning to _____. 2. I do a lot of mechanical work and I _____ my own car. 3. A more powerful version of this electric bus is currently under _____. 4. Computers can _____ a variety of tasks. 5. Lack of qualifications is an obvious _____. 6. Electronic data _____ is the widespread, modern technique of collecting, manipulating, analysing and presenting data and information. 7. The program allows you to _____ information quickly by searching under a keyword. 8. We will send you a copy as soon as it becomes _____. 9. My interests are very _____. 10. Most _____ cameras can shoot HD videos too, allowing you to record events in full.

27. Read and translate the following groups of sentences paying attention to the words in italics which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

1. a) I will never be his *equal* at chess.
b) The sides are of *equal* length.
c) Let *x equal* the sum of *a* and *b*.
2. a) Can you *access* the Internet on your mobile phone?
b) The computer provides *access* to all the information.
c) The only *access* to the village is by boat.
3. a) Computers *process* data.
b) Your application will take a few weeks to *process*.
c) The Web facilitates an interactive *process* of learning.
d) We watched them *process* down the aisle.
e) They had to *process* the fruit for shipment.

28. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Technology *n*, professional *n adj*, interactive *adj*, office *n*, product *n*, manipulation *n*, central *adj*, organize *v*, organization *n*, revolutionize *v*, detail *n*, service *n*, copy *n v*, concept *n*, modern *adj*, efficien-

cy *n*, resource *n*, accumulation *n*, personal *adj*, analog *adj*, form *n v*, document *n*, object *n*, fix *v*, display *n*, format *n*, virtual *adj*.

29. Read and translate the following *noun(s) + noun structures*, or *noun chains* which come from the texts of the Unit. Look up the words in your dictionary if necessary. Mind the ways of translating *noun(s)* as attributes in preposition into Russian.

Example

Существительные, выступающие в функции определения, переводятся:

1) существительным(-ыми) в родительном падеже:

a university² building¹ – здание¹ университета²

a battery³ charge² indicator¹ – индикатор¹ зарядки² батареек³

2) прилагательным:

computer² program¹ – компьютерная² программа¹

3) предложным оборотом:

oil³ price² decrease¹ – снижение¹ цены² на нефть³

4) причастным оборотом:

war² damage¹ – ущерб¹, нанесенный войной²

Computer technology, computer professionals, software products, data independence, information services, information resources, multimedia information, digital information universe, computer-based information systems, powerful information-transforming technologies, human problem-solving capabilities, computer visualization, data interpretation, networked multimedia computers, commercial broadcast television, information systems applications, mental information-processing functions, public information utilities.

30. Study the ways some nouns are formed from verbs. Form the nouns from the following verbs. Some of the missing words are from the texts of the Unit. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-er/-or** (the suffixes are used for a person who does an activity and for things which do a particular job):

Example: build – строить → builder – строитель

Collect, compute, consume, farm, manufacture, produce, distribute, work, own, use, design, manage, direct, educate, translate.

b) **-ment** (the suffix is used for an act or result of something):

Example: achieve – достигать → achievement – достижение

Pay, govern, employ, agree, manage, establish, improve, advertise, require, involve, environ, arrange, adjust, accomplish.

c) **-ion/-ation/-ition/-sion/-tion** (the suffixes are used for an act, state, or result of something):

Example: construct – строить → construction – строительство

Create, allocate, decide, educate, prepare, produce, compete, evaluate, distribute, reduce, pollute, define, locate, combine, limit.

31. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

A software developer, a regular contributor to the journal, the largest software distributor, a tape recorder, a poor performer at university, word processor, to be under development, involvement with the project, investment into the sphere of higher education, a monthly payment, to reach agreement, an application program, make a contribution, electronic distribution.

SECTION 3 READING AND DISCUSSION

32. What do you know about information technology? Read the statements given below and say if they are right or wrong. If the statements are not right, make the necessary corrections.

1. Information technology deals with the development, implementation, and maintenance of computer hardware and software systems to organize and communicate information electronically.

2. Information systems are only used for processing data.

3. The document including multimedia information is difficult to manipulate.
4. Symbolic information is represented in analog form.
5. Computer visualization is not used for data interpretation.
6. Information systems applications can be a substitute for people's mental information-processing functions.
7. Information systems may be divided into three groups according to their main objective.

33. Read Text 1A “Information Technology” and say if you are right or wrong. There is one statement for each paragraph. Discuss the answers with your classmates. Use the introductory phrases, like: *Exactly. It's (partly) true. Just the opposite. I don't think so. That's right. That's wrong.*

TEXT 1A

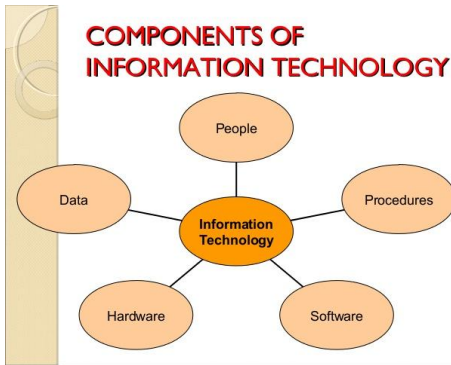
INFORMATION TECHNOLOGY

Information technology, or IT, is the technology involving the development, maintenance, and use of computer systems, software, and networks for the processing and distribution of data. Information technology has made the major contribution of opening up the use of computer technology to people other than computer professionals. Interactive applications in the office and home have been made possible by the development of easy-to-use software products for the creation, maintenance, manipulation, and querying of files and records. The database has become a central organizing framework for many information systems, taking advantage of the concept of data independence, which allows data sharing among diverse applications.

Modern information systems also bring new efficiency to the organization, retrieval, and dissemination of recorded information. The control of the world's information store has been truly revolutionized, revealing its diversity in hitherto unattainable detail. Information services provide mechanisms to locate documents nearly instantaneously and to copy and move them electronically. Access to information resources on electronic networks permits the accumulation of

highly individualized personal or corporate collections in analog or digital form or a combination of both.

Information technology forces an extension of the traditional concept of the document as a fixed, printed object to include bodies of



multimedia information. Because of their digital form, these objects are easy to manipulate; they are split into parts, recombined with others, reformatted from one medium to another, annotated in real time by people or machines, and readied for display in many different formats on various devices. Control of these

“living” documents, which are expected to become one of the most common units of the digital information universe, is one of the challenges for the emerging virtual library of the humankind.

An equally significant new dimension of modern information systems lies in their ability to manipulate information automatically. This capacity is the result of representing symbolic information in digital form. Computer-based information systems are able to perform calculations, analyses, classifications, and correlations at levels of complexity and efficiency far exceeding human capabilities. They can simulate the performance of logical and mathematical models of physical processes and situations under diverse conditions. Powerful information-transforming technologies now available or under development – data or text to graphics, speech to printed text, one natural language to another – broaden the availability of information and enhance human problem-solving capabilities.

Computer visualization is dramatically altering methods of data interpretation by scientists; geographic information systems help drivers of the latest automobiles navigate cities; and interactive applications of networked multimedia computers may, for some, replace newspapers, compete with commercial broadcast television, and give new dimensions to the future of education and training at all levels of society.

Information systems applications are motivated by a desire to augment the mental information-processing functions of humans or to find adequate substitutes for them. Their effects have already been felt prominently in three domains: the economy, the governance of society, and the milieu of individual existence.

Information systems may be divided into two categories: organizational systems and public information utilities. Information systems in formal organizations may be further distinguished according to their main purpose: support of managerial and administrative functions or support of operations and services. The former serve internal functions of the organizations, while the latter support the purposes for which these organizations exist [*D. Hoiberg. Students' Britannica*].

34. Complete the following sentences with details from the text.

1. The database is a central organizing framework for _____.
2. Information services provide mechanisms to _____.
3. One of the challenges for the humankind's virtual library is _____.
4. Information systems can perform _____.
5. _____ give new dimensions to education and training.
6. The effects of information systems applications have already been felt in _____.

35. Locate the following details in the Text. Give the line numbers.

1. In which lines does the author discuss interactive applications?
2. Where in the text does the author explain the efficiency of modern information systems?
3. Where in the text does the author discuss the traditional concept of the document?
4. At what point in the text does the author mention a new dimension of modern information systems?
5. In which lines does the author explain the use of geographic information systems?
6. At what point in the text does the author discuss the motivation of information systems applications?

36. Underline the detail that is NOT mentioned in the text in each of the sentences below.

1. Information technology has made the major contribution to the use of computer technology to computer professionals other than people.

2. Access to information resources on electronic networks permits the accumulation of highly individualized personal, family or corporate collections in analog or digital form.

3. Powerful information-transforming technologies broaden computer visualization and enhance human problem-solving capabilities.

37. Find in the text the paragraph about the types of information systems, read it aloud and translate it into Russian.

38. Mark the main ideas of the text and retell it in English.

39. Skim Text 1B “Information Technology as an Academic Discipline” and try to understand what it is about.

TEXT 1B

INFORMATION TECHNOLOGY AS AN ACADEMIC DISCIPLINE

Information technology is a label that has two meanings. In the broadest sense, the term *information technology* is often used to refer to all of computing. In academia, it refers to undergraduate degree programmes that prepare students to meet the computer technology needs of business, government, schools, and other organizations.

IT is a new and rapidly growing field that started as a response to the practical, everyday needs of business and other organizations. Today, organizations of every kind are dependent on information technology. They need to have appropriate systems in place. These systems must work properly, be secure, and upgraded. Employees throughout an organization require support from IT staff who under-

stand computer systems and their software and are committed to solving whatever computer-related problems they might have. Graduates of information technology programmes address these needs.

Degree programmes in information technology arose because degree programmes in the other computing disciplines were not producing an adequate supply of graduates capable of handling these very real needs. IT programmes exist to produce graduates who possess the right combination of knowledge and practical, hands-on expertise to take care of both an organization's information technology infrastructure and the people who use it. IT specialists assume responsibility for selecting hardware and software products appropriate for an organization, integrating those products with organizational needs and infrastructure, and installing, customizing, and maintaining those applications for the organization's computer users.

IT is a more applied computing discipline rather than being strictly theoretical in nature. Specifically, IT focuses on meeting the needs of users within an organizational and societal context performing the following for computing technologies: selection, creation, application, integration and administration.

IT programmes aim to provide IT graduates with the skills and knowledge to take on appropriate professional positions in information technology upon graduation and grow into leadership positions or pursue research or graduate studies in the field. Specifically, within four years of graduation a student should be able to:

1. explain and apply appropriate information technologies and employ appropriate methodologies to help an individual or organization achieve its goals and objectives;
2. function as a user advocate;
3. manage the information technology resources of an individual or organization;
4. anticipate the changing direction of information technology and evaluate and communicate the likely utility of new technologies to an individual or organization;
5. understand and contribute to the scientific, mathematical and theoretical foundations on which information technologies are built;
6. live and work as a contributing member of society.

Some people question whether IT programmes are a passing fad. Others ask if IT programmes are too technical in nature to deserve

the status of an academic discipline. People asked similar questions about computer science (CS) more than thirty years ago yet, after a number of years, the great majority of colleges and universities began to offer CS degrees. We may well see similar results with respect to IT. IT degree programmes address an important need that is widespread throughout society. To the extent that organizations rely on computer technology, the IT discipline has a key role to play [*Association for Computing Machinery*].

40. Answer the following questions.

1. What meanings does the term *information technology* have?
2. Why are organizations dependent on information technology?
3. What are IT specialists responsible for?
4. What does IT focus on?
5. What is the aim of IT as an academic discipline?
6. What is an IT graduate able to do?
7. Why are IT degree programmes so important?

41. Complete the sentences choosing the best variant corresponding to the contents of Text 1B.

1. In academia, IT refers to ...
 - a) computing.
 - b) undergraduate degree programmes.
 - c) business, government and schools.
2. IT started as a response to ...
 - a) the practical needs of different organizations.
 - b) the solution of computer-related problems.
 - c) information technology programmes.
3. IT programmes produce graduates who ...
 - a) select hardware and software products.
 - b) maintain applications for computer users.
 - c) have knowledge and practical expertise.
4. Information technology is ...
 - a) an applied discipline.
 - b) a theoretical discipline.
 - c) both a theoretical discipline and an applied one.

5. IT programmes provide IT graduates with the skills to ...
 - a) take on professional positions in business.
 - b) grow into business leadership positions.
 - c) do research in the field.
6. IT programmes ...
 - a) are a passing fad.
 - b) can't deserve the status of an academic discipline.
 - c) have a key role to play in society.

42. Identify the topic of each paragraph of Text 1B and retell it in English.

43. Match each topic of IT uses with two items in B.

A	B
Finance	global market
Business	encryption
Security	magnetic resonance imaging
Education	Internet transactions
Healthcare	prescriptions sent digitally
	online teaching
	online shopping
	online classes
	banks
	password

SECTION 4 SPEAKING

44. Igor Smirnov tells us about the university he goes to. Study the notes to help you understand the text. Pay attention to the useful words and expressions italicized for you.

The university I go to was founded in 1970 and since that time it has grown significantly. Now it *offers* a wide range of *academic courses at undergraduate and postgraduate levels*, enabling students to be successful in the current job market.

The academic activity is conducted across 60 *departments* which are arranged into seven *institutes*: the institute of information technology and operating systems, the institute of power engineering, the institute of mechanical engineering and others.

There are about 25,000 students *doing Bachelor's, Specialist's, Master's, and Doctoral degree courses* at the university. A Bachelor's degree course *takes four academic years to complete*, a Specialist's degree course – five academic years, a Master's degree course – two academic years, and *a postgraduate course* leading to a Doctoral (Candidate) degree – three academic years. *Correspondence and distance learning programmes* specifically tailored to the needs of those who work are also available.

The university is justifiably proud of its teaching. More than 600 *professors and lecturers* work at it. The university *trains highly-skilled specialists*: computer engineers, mechanical engineers, chemical engineers, civil engineers, architects and others.

There are a lot of laboratories at the university. They *are fitted with up-to-date equipment and instruments* to provide a high level of training. They are of great help to the students. Here our students *carry out their experiments and do research work*.

The university library *provides the students with access to* thousands of research and learning resources in print and online. They can *borrow* course books, manuals, journals and literature on the subjects they *are interested in*. There are a few *reading rooms* suited to different styles of learning.

The students of all abilities, from complete beginners to athletes, *make the most of* the university *sports facilities* including a few large well-equipped *gyms, sports grounds, and a swimming pool*.

The students studying away from home *are accommodated in the halls of residence* located on *the university campus*. The students can organise most of their day-to-day needs without leaving the campus which *includes* the library and computer centre, academic buildings, catering and social facilities.

The university *is committed to producing the professionally minded and skilled graduates* that employers want. The university *educates* the students to be creative, innovative and well equipped for the twenty-first century. *Strong industry links* have a positive impact on *the employability of the graduates*.

Notes

academic [ˌækəˈdemɪk] *adj* – учебный, университетский, академический

academic year – учебный год

department [diˈpɑːtmənt] *n* – кафедра; факультет

undergraduate [ˌʌndəˈɡrædʒuɪt] **course** [kɔːs] – четырехгодичный курс обучения в университете, дающий право на получение степени бакалавра

undergraduate (student) *n adj* – студент университета (учащийся, еще не получивший диплом бакалавра)

postgraduate (student) *n adj* – аспирант; аспирантский

correspondence [ˌkɒrɪˈspɒnd(ə)ns] **course** – курс заочного обучения

distance learning course – курс дистанционного обучения

Bachelor's degree [ˈbætʃ(ə)ləz ˈdiːɡriː] – степень бакалавра

Master's degree [ˈmaːstəz] – степень магистра

Doctoral degree [ˈdɒkt(ə)rəl] – степень доктора

attend a lecture [ˈlektʃ(ə)] – посещать лекцию

lecturer [ˈlektʃ(ə)rə] *n* – преподаватель университета

fit / (*syn.*) **equip** [iˈkwɪp] *v* – оборудовать, оснащать

do research [riˈsɜːtʃ] – проводить исследования/научно-исследовательскую работу, исследовать

borrow course books from the library – брать учебники в библиотеке

sports facilities [fəˈsɪlɪtɪz] – спортивные сооружения

catering [ˈkeɪt(ə)rɪŋ] **facilities** – предприятия общественного питания

hall of residence/hall / (*AmE*) **dormitory/dorm** [ˈdɔːmətri] *n* – университетское общежитие

45. What would you say if you took part in the following dialogue?

Use the information given in the text. Act the dialogue.

A.: Could you introduce yourself, please?

B.: _____.

A.: When was the university you go to founded?

B.: _____.

A.: What institutes are there at the university?

B.: _____.

A.: How many departments does the university have?

B.: _____.

A.: How many students study at the university?

B.: _____.

A.: What academic programmes does the university offer?

B.: _____.

A.: What are the periods of study for the academic programmes?

B.: _____.

A.: What can you say about the teaching staff?

B.: _____.

A.: What specialists does the university train?

B.: _____.

A.: What are the laboratories like?

B.: _____.

A.: Where can the students borrow literature for their studies?

B.: _____.

A.: Are there any facilities for the students to go in for sports?

B.: _____.

A.: Where do the students studying away from home live?

B.: _____.

A.: What does the university campus include?

B.: _____.

A.: What is the university committed to?

B.: _____.

46. Practise dialogue 1.

Dialogue 1 **Meeting a Friend**

Igor: Hello, Nick.

Oleg: Hello, Peter. Haven't seen you for ages.

Igor: What are you doing here? Are you a student of this university?

Oleg: Oh, yes. I've finished secondary school this year and decided to go to university to do a course in information technology here.

Igor: Glad to hear that. As you know, I'm a third-year student of this University.

Oleg: What course are you doing?

Igor: I'm doing a Bachelor's degree in mechanical engineering. In a year, I will be a mechanical engineer. I like my future profession very much.

Oleg: But I chose a Bachelor's degree course in information technology. I hope I'll graduate from the University in four years and become a highly-qualified software developer.

Igor: Do you live in a hall of residence? I haven't seen you there.

Oleg: No, I live with my parents. Come to see me at my place some time.

Igor: Thank you. I'll come. Good-bye.

Oleg: Good-bye.

47. Make up dialogues of your own using dialogue 1 as a model.

Situations.

You meet your friend and talk about:

- a) his/her first year of study at the university;
- b) his/her academic degree (s)he will obtain after graduating.

48. Practise dialogue 2.

Dialogue 2

Talking about the University

Ivan: Pete, I'd like to ask you about your University.

Pete: What are you interested in, Ivan? I am ready to answer your questions. Do you want to go to the Technological University?

Ivan: Yes, I do. I want to know more about your university and then I will choose which degree course to take. How long does a Bachelor's degree course last?

Pete: It lasts for four years.

Ivan: What degree courses does the University offer?

Pete: You may choose any of the following courses: information technology, civil engineering, chemical engineering, mechanical engineering, architecture, economics and many others.

Ivan: What subjects are the most important ones for a future IT engineer specialising in software design?

Pete: You should be good at mathematics, computer science, computer networks, algorithms and data structures, the software pro-

cess, operating systems architecture and so on. And certainly you'll have to know different types of computer systems very well.

Ivan: Oh, it is really interesting. Have you studied computer programming yet?

Pete: Yes, I did it last term.

Ivan: What does this course cover?

Pete: It covers different programming concepts such as data abstraction, procedural abstraction, graphical user interfaces and others.

Ivan: Thank you very much, Pete.

Pete: Not at all. I'll be very glad to see you among the students of the university.

49. Using dialogue 2 as a model, fill in the missing remarks of the dialogue given below and practise it.

A.: What are you doing at the University?

B.: _____.

A.: What course do you want to take?

B.: _____.

A.: You should be good at mathematics and computer science.

B.: _____.

A.: The course lasts for four years.

B.: _____.

A.: Why did you decide to become a computer engineer?

B.: _____.

A.: I see. That's very nice.

B.: _____.

A.: I hope to see you among the students of the University.

50. Speak on the university you go to. Use the above text and dialogues as a model.

SECTION 5 LISTENING

51. Listen to the Text "The Advantages of Information Technology" and answer the questions that follow.

1. What is the influence of information technology on globalization?
2. What areas of communication became available because of information technology?
3. What is Skype used for?
4. How did information technology make businesses more efficient?
5. What are the advantages of shopping online?
6. What professions wouldn't exist without the development of information technology?

52. Check your answers with your classmates and Tapescript 1A. Retell the text.

53. Give examples of some advantages of information technology from your own experience.

54. Listen to the Text “The Disadvantages of Information Technology” and say which of these statements are true and which are false.

1. Information technology has led to a rise in employment.
2. The development of information technology results in a lack of job security.
3. Information technology makes it easy for older employees to keep their jobs.
4. Information technology makes people's life secure.
5. Information technology is not considered to be a dominant culture.
6. English has become a means of international communication.

55. Check your answers with your classmates and Tapescript 1B. Retell the text about the disadvantages of information technology.

SECTION 6 WRITING

E-mails have become one of the most widely used forms of communication. An e-mail is typically a more relaxed way of sending messages. E-mails are quick, so they are good for chatting, inviting people out, keeping in touch and doing business.

An e-mail address has a user name, the symbol @ pronounced *at*, and a domain name. The user name is the name you choose. The domain has two parts separated by a *dot* (.). *_* in an email address is called *underscore*.

56. Study the parts and some features that are characteristic of e-mails.

From:
Date: To: ¹ Cc: ² Bcc: ³ Subject: ⁴ Attachments: ⁵
Salutation. ⁶ Opening sentence. ⁷ The e-mail information in detail. ⁸ Closing sentence. ⁹ Sign-off ¹⁰ Signature. ¹¹

Notes

¹The person the e-mail is for, e.g. myfriend@english.uk

²Carbon copy: these are e-mail addresses you enter that will be seen by every person you forward or send an e-mail to.

³Blind carbon copy: a copy of an e-mail message sent to a recipient whose e-mail address does not appear in the message.

⁴What the e-mail is about. Keep the subject short and clear but avoid such headings as: ‘Good News’, ‘Hello’, ‘Message from Peter’. These headings are common in messages containing viruses. Short but specific headings are needed, e.g. Party invitation; Software development.

⁵A file sent with an e-mail message; it can be a Word document, a picture, an Excel document, a sound file, a movie, or any other file that requires another program to open it.

⁶Greetings:

Informal: Hi / Hello / Morning / Afternoon / Evening / Dear (+ first name).

Formal: Dear (Miss/Mrs/Ms/Mr + last name), Dear Sir / Madam, To whom it may concern.

It is also becoming quite common to write the greeting without a comma.

⁷Example opening sentences:

Informal: Many thanks for your help.

How is life?

I haven't seen you for a long time.

It was great to hear from you after such a long time.

I am writing with some good news –

Formal: I am writing to you to thank you for your help.

Following our telephone conversation, I am sending you Please find attached the documents you requested regarding

Further to our last discussion, I would like to

As we agreed, there will not be

⁸The details, information and actions required. Any action that you want the reader to do should be clearly described, using politeness phrases, e.g. Could you ...; Please ...; I would be grateful if

⁹Example closing sentences:

Informal: Please call me or email when you can.

It would be lovely to see you some time (next week).

Do you ever come to Moscow? We could meet for lunch.

Keep in touch.

Let me know asap (as soon as possible).

Formal: I look forward to your reply.

I look forward to seeing you next week.

I look forward to hearing from you in the near future (at your earliest convenience).

Thank you for the time you have taken to review my candidacy for the position.

Please don't hesitate to contact me with any questions or concerns you may have.

¹⁰If you did not put a comma after the greeting at the beginning of the message, then do not put a comma after the ending either.

Example Sign-offs:

Informal: Thanks,
All the best,
Best wishes,
Love, / Love to Jane. See you then, / Lots of love,
Can't wait to see you,
Take care.

Formal: Yours sincerely,
Sincerely,
Yours faithfully,
Yours truly.

¹¹Identify yourself, company and contact information:

Name

Title

Company name

E-mail

Phone

Fax

Web Address

57. Read and translate the following sample e-mails.

a) An informal email.

1.

From: james@edu.mg
To: nikita@home.ru Date: 22 March 2017 Subject: Penfriend
Hello Nikita, I would like to get to know someone from your country and a friend has told me that you'd like to practise your English. Perhaps we could email each other. Could you tell me a bit about yourself and your family? Could you suggest how we might meet some time in the future? Thanks, James

2.

From: james@edu.mg
To: nikita@home.ru
Date: 20 June 2017
Subject: Going on camping
Hi Molly,
At last classes are over. I'm so happy I've finished my exams!
My friends and I are going on camping holiday this summer. Do you want to come along?
Do you have any camping equipment we could use? I know that you have been camping.
Hope you can come. If you have any questions, just ask.
Let me know asap.
Love, Tom

3.

From: sergey@mail.ml
To: viking@resid.dom
Date: 10 June 2017
Subject: My birthday
Hi Andrey,
How are things? Are you all right? Sorry I haven't replied to your last e-mail, but I've just finished my exams.
It's my 18th birthday on 20 June and I'm having a party at my place. Can you come? Hope you can. The party will be great and all my friends are going to be there. Let me know, OK?
See you! Sergey

b) A formal email.

From: foreign@tdk.ru
Date: Wednesday, 22 March, 4.17 pm
To: language@dpt.uk
Cc: architect@dpt.uk
Bcc:
Subject: Programmer position
<p>Dear Mrs Smith,</p> <p>It was very nice to speak to you on the phone today about the programmer position at your company. The job seems to be an excellent match for my skills and interests. The characteristic requirements you described needed for this position confirmed my desire to work with you. In addition to my experience, I will bring to the position the skills to motivate others to work cooperatively as a team.</p> <p>I highly appreciate the time you took to interview me. I am very interested in working for you.</p> <p>I look forward to hearing from you regarding this position.</p> <p>Yours sincerely, Chris Williams (Mr) Office manager</p>

58. Which phases usually start an e-mail and which end one? Write S (start) or E (end) next to the phrase.

- 1. Well, that’s all for now. ____
- 2. I look forward to hearing from you as soon as possible. ____
- 3. Thanks for your email. ____
- 4. Yours truly. ____
- 5. It was wonderful to hear from you again.
- 6. Dear Sir/Madam. ____
- 7. Take care. ____
- 8. I’m sorry I haven’t written before, but I’ve been very busy. _

59. Here are some phrases to use in e-mails. Match the informal phrases on the left with the suitable formal on the right.

- | | |
|--------------------------|------------------------------------|
| 1. I'm Nick. | a. I am writing to ask about |
| 2. I'm glad you're OK. | b. Hello Julia |
| 3. Can you tell me about | c. I can't see you on Saturday. |
| 4. I want to apply for | d. Thank you very much. |
| 5. Dear Mrs Adams | e. I'll talk o you soon. |
| 6. Thanks loads. | f. My name is Nickolas. |
| 7. Can't make on Sat. | g. I am interested in applying for |
| 8. Speak soon. | h. I'm pleased that you are well. |

60. Smileys (emoticons) are used in e-mails to show emotions and pass on visual information about the user. You have to read them with your head on one side. Look at some smileys. Which one means the user:

- | | |
|-------------------------------|-------------|
| 1. is angry? | a : - V |
| 2. is laughing? | b : - O |
| 3. is shouting? | c : - D |
| 4. is happy? | d . -) |
| 5. is sad? | e : - (|
| 6. winking, he's just joking? | f : - |
| 7. is surprised? | g 8 -) |
| 8. has one eye closed? | h ; -) |
| 9. wears glasses? | i : -) |

61. Write these messages in the correct order. Which are formal and which are informal?

1. London, great, last, to, in, week, see. 2. writing, order, confirm, I, to, am, my. 3. you, email, can, please, when. 4. all, with, hope, well, you, is. 5. your, I, 10th, refer, July, dated, to. 6. assistance, am, your, I, for, kind, grateful.

62. Using the above sample e-mails as models, write:

- an informal e-mail to a friend about your summer holiday;
- an informal e-mail giving your news, describing some things you have done recently, saying what your future plans are, and asking about his/her news and family;

- c) an informal e-mail regarding your study at university and describing one of your university friends;
- d) a formal e-mail regarding the information about some courses of study the university provides for students;
- e) a formal e-mail to Walter Smith who wrote to your company asking for information about your services.

UNIT 2

CAREER IN INFORMATION TECHNOLOGY



Section 1. Grammar Practice:

Degrees of Comparison. Comparison Structures. Present, Past and Future Simple (Active Voice). Types of Questions. *Used to. To be going to.* Clauses of Condition and Time: *if (when)* + Present Simple, *will* + Infinitive (without *to*).

Section 2. Vocabulary and Word Study:

Suffixes: *-ance/-ence; -ure; -ly.*

Section 3. Reading and Discussion:

Text 2A. IT Career Pathways.

Text 2B. Software Developers.

Section 4. Speaking:

My Studies.

Section 5. Listening:

2A. Working Conditions of IT Specialists.

2B. Systems Analysts.

Section 6. Writing:

Fax Messages.

SECTION 1 GRAMMAR PRACTICE

1. Give the comparative and superlative forms of the adjectives in the following phrases and translate them into Russian (See Grammar Reference 2.1.).

A large organization, a high demand, an important invention, a common language, a long period of time, an important aspect, an easy

thing, a great translator, a difficult exercise, a good understanding, a beautiful girl, a slow process, much water, bad weather, many mistakes, a simple design.

2. Give the comparative and superlative forms of the following adverbs and translate them into Russian.

To work hard, to read often, to do easily, to speak English well, to know little, to go far, to run slowly, to solve quickly, to move fast, to do much, to watch closely, to live near, to come late, to wake up early, widely spoken language, to perform successfully, to publish recently, to write soon.

3. Complete the sentences using the comparative and superlative forms of the adjectives and adverbs.

1. Our hotel was _____ than all the others in the town. (*cheap*)
2. It was an awful day. It was _____ day of my life. (*bad*) 3. Your mark isn't very good. I'm sure you can do _____. (*good*) 4. I prefer this chair to the other one. It's _____. (*comfortable*) 5. A computer is one of _____ achievements of man. (*great*) 6. Mark speaks French _____ of all the students in his class. (*fluently*) 7. You are standing too near the camera. Can you move a bit _____ away? (*far*) 8. She sings _____ than anyone else I've ever heard. (*beautifully*) 9. What is _____ unit in the computer? (*important*) 10. I like this book _____ than that one. (*well*)

4. Read and translate the following sentences into Russian paying attention to *as...as*, *not so...as*, *the...the*.

1. My salary is not as high as yours. 2. You don't know as much about cars as me. 3. The more electricity you use, the higher your bill will be. 4. Jim is not as clever as he thinks. 5. You didn't finish the crossword puzzle as quickly as I did. 6. The younger you are, the easier it is to learn. 7. There were not as many people at this lecture as at the last one. 8. I don't get up as early as you do. 9. The warmer the weather, the better I feel. 10. The more expensive the hotel, the better the service.

5. Write the sentences in the 3rd person singular (the Present Simple) (See Grammar Reference 2.2.).

1. I study at the information technology department. 2. They perform a lot of computer operations. 3. Computers help to solve a lot of important problems. 4. After finishing a secondary school many young people go to universities or colleges. 5. My friends take interesting courses in their first year. 6. These students do research. 7. All my classmates attend lectures regularly. 8. Educated people contribute more to the society. 9. The citizens of Russia show a great concern for education for themselves and their children. 10. My classes begin at 8.15 in the morning.

6. Put the verbs in the Past Simple.

a) *regular verbs* (mind the reading of *-ed* ending): show, include, offer, last, attend, use, found, open, develop, want, prepare, start, study, receive, contribute;

b) *irregular verbs*: take, hold, go, give, lead, begin, find, become, get, pay, spend, understand, come, know, make, read, speak, see, think, write.

7. Write the following sentences in the negative.

a) 1. He buys a newspaper every day and reads it. 2. They very often go to the cinema. 3. Amanda is married and she wears a ring. 4. It is an expensive hotel. It costs much to stay there. 5. Brian lives near us and we often see him. 6. Jack and Ann know my parents very well.

b) 1. Tim bought some new clothes yesterday. 2. The party was very good, so we stayed long. 3. It was very warm in the room, so I opened the window. 4. I went to the bank this morning. 5. Jack did English at the university. 6. I watched television yesterday.

c) 1. Russia will win the next football World Cup. 2. The weather will be much warmer in the next few years. 3. This professor will give them lectures on information technology. 4. Private cars will disappear before the year 2100. 5. We will see them in the classroom. 6. In the year 2100 people will eat the same things as they do now.

8. Fill the gaps with the correct form of the verb in the Present, Past or Future Simple. Translate the sentences into Russian.

1. We (study) _____ programming languages next week. 2. Last year Kate (leave) _____ school and (go) _____ on to higher education. 3. Now my friend (attend) _____ evening classes at the local school once a week to learn French. 4. She (want) _____ to take up her examination more seriously, because her progress is very bad. 5. Last year he (get) _____ a degree in information technology from a private college. 6. We (take) _____ three examinations next term. 7. Peter's brother (teach) _____ English at university last year. 8. School (have) teachers and lessons, at university you have lecturers and lectures. 9. They (offer) _____ him a new job two days ago. 10. The professor (speak) _____ about the invention of computers at his next lecture.

9. Change the following sentences to general, alternative, special (beginning with the question-words given in brackets) and tag questions (See Grammar Reference 2.3.).

Example:

Mary *lives* in London. (*Where? Who?*)

Does Mary live in London?

Does Mary live in London or in Manchester?

Where does Mary live?

Who lives in London?

a) 1. The offices usually close at lunchtime. (*When? What?*) 2. James has a computer at home. (*Where? What? Who?*) 3. This computer operates well. (*What? How?*) 4. Many people in Los Angeles speak Spanish. (*Where? What? Who?*) 5. She usually goes to the cinema once a week with a friend? (*Where? How often? Who?*) 6. An interpreter translates from one language into another. (*What? Who?*) 7. John comes from England. (*Where? Who?*) 8. My friends always go out on Saturdays. (*When? Who? Whose? How often?*) 9. He understands English well. (*What? How? Who?*) 10. They only work at weekends. (*When? Who?*)

b) 1. Yesterday I bought two newspapers. (*When? What? How many? Who?*) 2. Terry worked in that company from 2005 to 2012. (*Where? When? Who?*) 3. Last Sunday we went to the cinema. (*When? Where? Who?*) 4. This morning Tom had a shower. (*When? What? Who?*) 5. We enjoyed the party last night. (*When? What? Who?*) 6. She passed her exam successfully yesterday. (*When? How? What? Who?*) 7. Our friends came to see us last Friday. (*When? Who? Whose?*) 8. I studied English at school. (*Where? What? Who?*) 9. Yesterday Jim went to work by car. (*When? How? Who?*) 10. Last year they carried out many experiments. (*When? What? How many? Who?*)

c) 1. I will phone her tomorrow. (*When? Who?*) 2. We will hold a seminar on his problem in two days. (*When? What? Who?*) 3. The exam will start at 8.30 tomorrow. (*What time? When? What?*) 4. They will learn Spanish next year. (*When? What? Who?*) 5. I will write to you every day. (*How often? Who?*) 6. She will do information technology at the university. (*Where? What? Who?*) 7. My classmates will have a talk with the Head of the Department tomorrow. (*Who? When? Whose? What?*) 8. They will have their teaching practice at school next term. (*What? When? Where? Who?*) 9. Dr. Smith will lecture at our university for two terms. (*Where? How long? Who?*) 10. Students will have a vacation in two weeks. (*What? When? How many?*)

10. Complete the sentences. Use *used to* or *the Present Simple* and translate the sentences into Russian (See *Grammar Reference 2.4.*).

1. I _____ tennis. I stopped playing a few months ago. 2. "Do you do any sport?" "Yes, I _____ basketball. 3. "Have you got a car?" "No, I _____ a car but I sold it". 4. George _____ a waiter. Now he's the manager of the hotel. 5. "Do you go to work by car?" "Sometimes, but most days I _____ by train". 6. When I was a child I never _____ meat, but I eat it now. 7. Mary loves watching TV. She _____ TV every evening. 8. We _____ near the airport but we moved to the city centre a few years ago. 9. Normally I start work at 7 o'clock, so I _____ up very early. 10. When I was a child, I _____ chocolate but now I don't like it.

11. Here are some of the plans of various members of a family. Put the sentences together, using *to be going to* (See *Grammar Reference 2.5.*).

Example: Jane is going to study music in Vienna.

Beginnings

1. Jane/study
2. She/try to become
3. But first, she/spend
4. Max/do maths and science
5. Then he/train
6. Deb's 10, and she doesn't know/
7. One day she says/
8. And the next she says she/
9. This summer, Jane/
10. Max/spend
11. Their parents/spend
12. Then they/

Ends

- a) a professional pianist.
- b) a year learning German.
- c) as a pilot.
- d) decorate the house.
- e) for his final exams.
- f) music in Vienna.
- g) she/be a dancer.
- h) the summer learning to fly.
- i) start her own business.
- j) stay with her aunt in the US.
- k) a week walking in Scotland.
- l) what she/do.

12. Read and translate the sentences. Mind the tense in subordinate clauses of condition and time (See *Grammar Reference 2.6.*).

1. When he gets the book "Information Technology", he will give it to you. 2. As soon as I get any news, I will tell you about it. 3. They will finish the work when they get these data. 4. If you change the method of your experiment, you will get different results. 5. If I'm late this evening, don't wait for me. 6. I will talk to you later when I have more time. 7. I will stay here until you come back. 8. If you see Ann tomorrow, can you ask her to phone me? 9. Please close the window before you go out. 10. They will come and see you when they are in England again.

SECTION 2 VOCABULARY AND WORD STUDY

13. Read and memorize the active vocabulary to the texts of Unit 2 and translate the given sentences.

1. **backup** ['bækʌp] *n adj* – резервирование; резервная копия; резервное устройство; поддержка; вспомогательный, резервный, дублирующий

backup system – резервная (дублирующая) система; поддерживающая система

Always make a *backup* of your work. The department's *backup* disks are all stored in a different building. *Backup systems* have become important aspects of the job of database administrators.

2. **charge** [tʃɑ:dʒ] *n v* – заряд; (*pl.*) расходы; заряжать

charger *n* – зарядное устройство

be charged with – поручать

be in charge of – руководить; отвечать за (кого-л., что-л.)

He put his phone on *charge*. It's not working – I don't think the battery is *charging*. She was *charged with* seeing that everything went well. Who will *be in charge of* the department when Sophie leaves?

3. **demand** [di'ma:nd] *n v* – требование, запрос; потребность, нужда; спрос; требовать, запрашивать; нуждаться

be in demand – пользоваться спросом

His new job makes a lot of *demands* on him. *Demand* for personal computers has risen sharply. They failed to provide the information *demanded* of them. These old machines *are still in demand*.

4. **employ** [im'plɔɪ] *v* – предоставлять работу, нанимать (на работу); использовать, применять

employee [im'plɔɪ'i:] *n* – служащий, работающий по найму

employer [im'plɔɪə] *n* – работодатель, наниматель

employment [im'plɔɪmənt] *n* – работа, служба, занятость; прием (на работу); применение, использование

How many people does the company *employ*? Sophisticated statistical analysis *was employed* to obtain these results. The car industry is one of our biggest *employers*. The company has over 50 *employees*. The number of people in *employment* has fallen.

5. **equip** [i'kwɪp] *v* – оборудовать, оснащать

equipment [i'kwɪpmənt] *n* – оборудование, оснащение

It is going to cost \$4 million *to equip* the hospital. *The equipment* of the photographic studio was expensive.

6. **evaluate** [i'væljuːeɪt] *v* – оценивать; давать оценку

evaluation [i,vælju'eɪʃn] *n* – оценка; оценочная функция

We need *to evaluate* how well the system is working. The technique is not widely practised and requires further *evaluation*.

7. **implement** ['ɪmplɪmənt] *v* – выполнять, осуществлять, реализовывать

implementation [ɪmplɪmən'teɪʃn] *n* – выполнение, реализация

I wondered how I might best *implement* his plan. *The implementation* of the new system occurs when the old system is replaced by the new one.

8. **install** [ɪn'stɔ:l] *v* – устанавливать, монтировать, собирать; располагать, размещать

installation *n* – установка, инсталляция (программного обеспечения); установка, устройство, система

I'll need some help *installing* the software. You will receive a message confirming correct *installation* of the program.

9. **network** ['netwɜ:k] *n* – сеть; сетка; схема

the Internet (the Net) ['ɪntənɪt] *n* – Интернет

Usenet *n* – сеть Usenet; сеть пользователей

surf [sɜ:f] **the Net** – исследовать сеть, осуществлять поиск в сети

The Internet is a global computer *network*. He spends most of his spare time on *the Internet*. *Usenet* lets people with common interests communicate with others in discussion groups. He likes *surfing the Net*, moving from one location to another.

10. **operate** ['ɒpəreɪt] *v* – приводить в действие; работать, функционировать, производить операции

operation *n* – операция, действие; работа, функционирование; режим работы; эксплуатация

be in operation – действовать, функционировать, работать

come into operation – начинать действовать (работать); быть пущенным в эксплуатацию

operating system – операционная система; действующая (работающая) система

The video provides instruction on how *to operate* the computer. The whole *operation* is performed in less than three seconds. *Operation* of the device is extremely simple. The system *has been in operation* for six months. The new production plant *came into operation* last

month. Every general-purpose computer must have *an operating system* to run other programs and applications.

11. **provide** [prə'vaɪd] *v* – обеспечивать, снабжать

provider *n* – провайдер, поставщик

network service provider – поставщик сетевых услуг

We are here *to provide* the public with a service. AOL (America Online) is the largest *service provider* in the US.

12. **range** ['reɪndʒ] *n v* – ряд, серия, диапазон, интервал, предел; колебаться в пределах, классифицировать, простирается

The experiments show a surprisingly wide *range* of results. The product is aimed at young people in the 18 – 25 age *range*. Accommodation *ranges* from tourist class to luxury hotels.

13. **require** [rɪ'kwaɪə] *v* – нуждаться, требовать

requirement [rɪ'kwaɪəmənt] *n* – требование, потребность; (*pl*) технические требования

meet the requirements (the needs) удовлетворять условиям (требованиям, потребности)

Deciphering the code *requires* an expert. Do you *require* anything else? What is the minimum entrance *requirement* for this programme? Here is a software package *to meet your requirements*.

14. **research** [rɪ'sə:tʃ] *n v* – научно-исследовательская работа, исследование; исследовать, заниматься исследованиями

carry out / do research – проводить исследования/научно-исследовательскую работу, исследовать

This is an important area of *research*. He *has done* a lot of *research* into renewable energy sources. Most academic *research is carried out* in the universities.

15. **secure** [sɪ'kjʊə] *adj v* – защищенный, безопасный; надежный, гарантированный; защищать, обеспечивать защиту

keep files secure – сохранять файлы защищенными

security [sɪ'kjʊ(ə)rɪti] *n* – защита, обеспечение безопасности; (*pl*) средства защиты

data security – защита данных; сохранность данных, безопасность (надежность) хранения данных

Information must be stored so that it is *secure* from accidental deletion. That was the failure *to secure* public support for the project. The college failed to provide adequate *security* on campus after dark. *Data security* is the main priority for any organization.

16. **solve** [sɒlv] *v* – решать, разрешать

solve a problem – решить задачу (проблему)

solution [sə'lu:ʃ(ə)n] *n* – решение

This question *has never been* satisfactorily *solved*. She is really good at *solving problems*. There is no easy *solution* to this problem.

17. **store** [stɔ:] *n v* – запоминающее устройство; ЗУ; хранилище; запоминать, хранить

storage ['stɔ:ridʒ] *n v* – память, запоминающее устройство; запоминание, хранение; хранилище; запоминать, хранить

removable storage – съемное (сменное) запоминающее устройство; сменная память, память на съемных носителях

The data *is stored* on a hard disk and backed up on a CD. This system provides the *storage* and retrieval of information. *Removable storage* works together with your data-management applications.

18. **supervise** ['s(j)u:pəvaiz] *v* – контролировать, руководить

supervisor *n* – инспектор, контролер

He was employed *to supervise* the computerization of records. All work is done under the guidance of *a supervisor*.

19. **support** [sə'pɔ:t] *n v* – поддержка, обеспечение; средства поддержки (обеспечения); поддерживать, обеспечивать

software support – программная поддержка

technical support – техническая поддержка (пользователей)

Can I count on your *support*? We offer free *technical support*. Several major companies *are supporting* the project. This digital audio player *supports* multiple formats.

20. **tool** [tu:l] *n* – инструментальное средство, инструмент; (*pl*) инструментарий

programming tools – средства программирования

This website is an online drawing *tool* where you can create nice draws and animate images too.

14. Match the pairs of synonyms from A and B and translate them.

A

1. carry out

2. overseer

B

a) backup

b) secure

- | | |
|----------------|----------------|
| 3. demand | c) operation |
| 4. support | d) range |
| 5. performance | e) employee |
| 6. fit | f) implement |
| 7. safe | g) evaluate |
| 8. extend | h) supervisor |
| 9. assess | i) equip |
| 10. worker | j) requirement |

15. Match the verb on the left with a suitable item on the right. Use each item once only.

- | | |
|--------------|---------------------|
| 1. store | a) files secure |
| 2. meet | b) research |
| 3. provide | c) in charge of |
| 4. keep | d) the requirements |
| 5. surf | e) a problem |
| 6. be | f) network services |
| 7. install | g) into operation |
| 8. carry out | h) the data |
| 9. solve | i) the software |
| 10. come | j) the Net |

16. Match two words to make a common collocation.

- | | | | | |
|--------------|----------|-----------|-------------|-----------|
| system | data | support | backup | removable |
| installation | tool | technical | program | storage |
| Internet | security | provider | programming | |

17. Make the following sentences complete by translating the words and phrases in brackets.

1. The office (сеть) allows users to share files and software, and to use a central printer. 2. He spends all his money buying new bits of computer (оборудование). 3. Computers are an essential (инструмент) for modern scientists. 4. We follow very strict guidelines on the use and (хранение) of personal details on computers. 5. They (наняли на работу) ten new staff. 6. Is it all right to leave the battery on (за-)

рядка) overnight? 7. Good programmers are always (пользоваться спросом). 8. She asked her (работодатель) for a pay rise. 9. (Программная поддержка) is the providing of after sales service to customers for updates and any problems they may encounter. 10. The decision will be difficult to (выполнять).

18. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Social *adj*, effectively *adv*, creative *adj*, career *n*, communication *n*, analyst *n*, design *n*, local *adj*, position *n*, type *n*, telecommunication *n*, specialist *n*, focus *n v*, client *n*, technical *adj*, electronic *adj*, administrator *n*, aspect *n*, company *n*, financial *adj*, theorist *n*, academic *adj*, industry *n*, produce *v*, potential *adj*, expert *n*, auction *n*.

19. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Information technology solutions, information technology careers, information support, software development, computer challenges, data communications analysts, local area networks, wide area networks, telecommunications specialists, computer and communications equipment, information technology deployment, database administrators, database management systems software, data integrity, database security, computer operating systems, career opportunities, software companies, computer scientists, programming-language design, knowledge-based systems, computer-enhanced media, interactive media experts, e-business auction, site creation and design.

20. Study the ways some nouns are formed from verbs and adjectives, and some adverbs are formed from adjectives. Form the nouns and adverbs. Some of the missing words are from the texts of the Unit. Read and translate them into Russian.

a) **-ance/-ence** (the suffix is used for an action/quality of smth):

Example: accept – принимать → acceptance – принятие

convenient – удобный → convenience – удобство

Insure, depend, appear, assist, attend, maintain, perform, resist, correspond, exist, prefer, refer; abundant, elegant, important, significant, different, absent, present.

b) **-ure** (the suffix is used for an act or condition of something):

Example: fail – потерпеть неудачу → failure – неудача

Close, depart, enclose, expose, mix, sculpt, please, seize.

c) **-ly** (the suffix is used to form adverbs):

Example: exact – точный → exactly – точно

Notable, original, recent, regular, typical, rough, traditional, fundamental, clear, large, direct, easy, rapid, exact, natural, primary.

21. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

With the assistance of web developers, an assurance of the safety of the system, his performance in the exams, the statistical significance of the results, an insurance company, a correspondence course in physics, to show a preference for one learning style over others, his indifference towards computers, interference in business, to create a web presence for the movie, a procedure of conducting exams, to put a signature on a document, government expenditure on education, water pressure, an illegal seizure of property, to be largely responsible for this, especially important, to be closely connected, to prepare easily, a heavily loaded van, a highly skilled workforce.

SECTION 3 READING AND DISCUSSION

22. Before you read Text 2A “IT Career Pathways”, discuss the following questions with your classmates or teacher.

1. What IT careers do you know?

2. What segments are IT careers divided into?
3. Why are careers in network systems in high demand?
4. What are experts in information support and services concerned with?
5. What does the practice of programming and software development involve?
6. What are interactive media experts responsible for?

23. Read the text to find out if your answers are right or wrong.

TEXT 2A

IT CAREER PATHWAYS

Information technology is the driving force of business, education, entertainment, health care and government. IT is about combining the power of computing with the study of managerial know-how and social issues to effectively solve problems and to creatively research future IT solutions. Information technology careers are divided

into four pathways: network systems, information support and services, programming and software development and interactive media.

If you like working with your hands and solving computer challenges, network systems may be your career. Because networks are configured in many ways, network systems and data communications analysts are needed to

design, test, evaluate, and manage systems, such as local area networks, wide area networks, the Internet, Intranets, and other data communications systems. People with expertise in network systems



are in high demand for a variety of positions in organizations of all sizes and types. Telecommunications specialists focus on the interaction between computer and communications equipment. These workers design voice and data communication systems, supervise the installation of the systems, provide maintenance and other services.

Careers in information support and services involve IT deployment, including implementing computer systems and software, providing technical assistance and managing information systems. With the Internet and electronic businesses generating large volumes of data, there is a growing need to be able to store, manage, and extract data effectively. Database administrators work with database management systems software and determine the ways to organize and store data. Data integrity, backup systems, and database security have become important aspects of the job of database administrators.

Careers in programming and software development involve the design, development, implementation and maintenance of computer systems and software, requiring knowledge of computer operating systems, programming languages and software development. While many of the career opportunities in this area are in software companies, large organizations of other types, such as financial services and business, also offer many opportunities. Computer scientists work as theorists, researchers, or inventors. Those employed by academic institutions work in areas ranging from complexity theory to programming-language design. Their counterparts in the private industry carry out tasks such as developing specialized languages or information technologies, designing programming tools or knowledge-based systems, and computer games.

Careers in interactive media involve creating, designing and producing interactive, multimedia products and services, including development of digitally-generated or computer-enhanced media used in business, training, entertainment, communications and marketing. Organizations of all types and sizes use digital media (World Wide Web, CD-ROM, DVD) to communicate with existing and potential customers, track transactions, and collaborate with colleagues. Interactive media experts can find employment opportunities in different organizations, doing work such as creating e-business auction websites that allow people around the world to buy and sell items in real-time. Webmasters are responsible for all technical aspects of a website, in-

cluding performance issues, such as speed of access, and for approving the content of the site. Internet developers or web developers, also called web designers, are responsible for day-to-day site creation and design [G. May, J. Gourneya. *Information Technology Career Guide*].

24. Which of the IT job-titles mentioned in the text would best describe the following?

1. A person who works with database management systems software and determines the ways to organize and store data.
2. A person who is responsible for site creation and design.
3. A person who designs, tests, and manages network systems.
4. A person who develops specialized languages, designs programming tools and knowledge-based systems.
5. A person who designs voice and data communication systems and supervises the installation of the systems.

25. Add some more sentences confirming the following statements.

1. Information technology is the driving force of business, education, entertainment, health care and government. 2. If you like working with your hands and solving computer challenges, network systems may be your career. 3. There is a growing need to be able to store, manage, and extract data effectively. 4. Careers in programming and software development offer many opportunities. 5. Interactive media experts can find employment opportunities organizations of all sizes and types.

26. Find in the text the paragraph describing the careers in information support and services, read it aloud and translate it into Russian.

27. Mark the main ideas of the text and retell it in English.

28. Skim Text 2B “Software Developers” and try to understand what it is about.

TEXT 2B

SOFTWARE DEVELOPERS

Software developers are the creative minds behind computer programs. They are in charge of the entire development process for a software program. They may begin by asking how the customer plans to use the software. They must identify the core functionality that users need from software programs. Software developers must also determine user requirements that are unrelated to the functionality of software, such as the level of security and performance needs. They design the program and then give instructions to programmers, who write computer code and test it. If the program does not work as expected or if testers find it too difficult to use, software developers go back to the design process to fix the problems or improve the program. After the program is released to the customer, a developer may perform upgrades and maintenance.

Developers usually work closely with computer programmers. However, in some companies, developers write code themselves instead of giving instructions to the programmers.

Developers who supervise a software project from the planning stages through implementation sometimes are called information technology (IT) project managers. These workers monitor the project's progress to ensure that it meets deadlines, standards, and cost targets. IT project managers who plan and direct an organization's IT department or IT policies are included in the profile on computer and information systems managers.

The following are the examples of types of software developers. Applications software developers design computer applications, such as word processors and games, for consumers. They may create custom software for a specific customer or commercial software to be sold to the general public. Some applications software developers create complex databases for organizations. They also create programs that people use over the Internet and within a company's Intranet.

Systems software developers create the systems that keep computers functioning properly. These could be operating systems for computers that the general public buys or systems built specifically for

an organization. Systems software developers also build the system's interface, which is what allows users to interact with the computer. Systems software developers create the operating systems that control most of the consumer electronics in use today, including the systems in phones or cars. Many software developers work for firms that deal in computer systems design and related services firms or for software publishers. Some systems developers work in computer and electronic product manufacturing industries.

In general, software development is a collaborative process, and developers work on teams with others who also contribute to designing, developing, and programming successful software. However, some developers telecommute (work away from the office). Software developers can advance to become IT project managers, also called computer and information systems managers, a position in which they oversee the software development process.

Job prospects will be the best for applicants with knowledge of the most up-to-date programming tools and for those who are proficient in one or more programming languages [*Duties of Software Developers*].

29. Relate each heading to the corresponding paragraph of the text.

1. Applications software developers.
2. Computer and information systems managers.
3. Systems software developers.
4. Job prospects of software developers.
5. The responsibilities of software developers.
6. IT project managers.

30. Give a brief overview of the structure and contents of the text.

31. Use the Internet or reference books to find some more information on software developers' jobs. Choose one you like and make notes of its characteristics. Bring your notes to class and say why you have chosen it.

SECTION 4 SPEAKING

32. Boris Klimov tells us about his studies. See the notes to help you understand the text. Pay attention to the useful words and expressions italicized for you.

My name is Boris Klimov. I am a *first-year undergraduate student*. I *am studying for* a Bachelor's degree. I *am doing* an information technology *course*. I didn't have *to take entrance examinations*. To go to University I had *to pass the school-leaving examinations* called the Unified State Examinations in Mathematics, Physics and Russian. They were held at school, and I received high marks. I *was enrolled in the university* in 2017. I am a *full-time student*, which means that I take a full load of course work each academic term: I *attend classes, lectures and seminars*. A lot of young people *enrol in* correspondence and distance learning courses.

My Bachelor's *degree course* lasts four years. The academic year begins in September and ends in June. There are two terms in it. So I *take end-of-term tests and examinations* twice a year, that is in January and June. If I *pass* them successfully, I *am granted* a monthly *scholarship*. I *have a two-month summer vacation* and a two-week winter vacation every academic year.

I *attend the University* on weekdays. I have no classes on Sunday. At the University, classes begin at 8.15 in the morning and are over at 3.55 in the afternoon. During the first year, *the students are taught* different subjects of general nature. My favourite ones are mathematics, physics and English. From the third year onwards, the students *take some special subjects* of their chosen profession. Much of *the coursework* is related to software development and applications programming.

Every day I usually have three or four classes, lectures or seminars which are all an hour and a half in length. During a *long forty-five minute break* I go to the university canteen or café to have my midday meal. I go to the university library after my classes. I *am in the habit of doing* my homework there. But a lot of my classmates prefer doing it at home.

I am a *diligent student*. I don't miss any classes, lectures or seminars and always *do my best* to prepare properly for them.

Notes

first-year student – студент первого курса, студент-первокурсник

full-time student – студент дневного отделения

enrol(l) [in'traʊl] **in**/(syn.) **go to/enter** ['entrə] **the university** – зачислять / поступать в университет

hold an exam(ination) – проводить экзамен

take an exam(ination) – держать (сдавать) экзамен

pass an exam(ination) – выдержать (сдать) экзамен

school-leaving examination – выпускной школьный экзамен

entrance ['entrəns] **examination** – вступительный экзамен

Unified State (National) Examination – единый государственный экзамен (ЕГЭ)

term [tə:m] *n* – семестр

end-of-term tests and examinations – семестровые зачеты и экзамены

scholarship ['skɒləʃɪp] *n* – стипендия

grant a scholarship – давать (присуждать) стипендию

last *v* – продолжаться, длиться

vacation [və'keɪʃ(ə)n] *n* – каникулы

canteen [kæn'ti:n] *n* – столовая, буфет

café ['kæfeɪ] *n* – кафе

take a subject – изучать предмет

be in the habit of doing smth – иметь обыкновение (привычку) что-л. делать

diligent ['dɪlɪdʒənt] *adj* – прилежный, старательный

miss *v* – пропускать, не посещать (занятия, лекции т.п.)

do one's best – сделать все от себя зависящее

properly ['prɒpəli] *adv* – должным образом, как следует

**33. What would you say if you took part in the following dialogue?
Use the information given in the text. Act the dialogue.**

A.: What is your name?

B.: _____.

A.: What year student are you?

B.: _____.

A.: What degree are you studying for?

B.: _____.

A.: What course are you doing?

B.: _____.

A.: What did you have to do to be enrolled in the university?

B.: _____.

A.: Are you a part-time student?
 B.: _____.
 A.: How long does your degree course last?
 B.: _____.
 A.: When does the academic year begin and end?
 B.: _____.
 A.: How many terms are there in the academic year?
 B.: _____.
 A.: Are you granted a scholarship?
 B.: _____.
 A.: Are all students granted monthly scholarships?
 B.: _____.
 A.: What are the periods of winter and summer vacations?
 B.: _____.
 A.: When do you have classes at the university?
 B.: _____.
 A.: What subjects are the students taught during the first year of study and from the second year onwards?
 B.: _____.
 A.: What do students do during a long forty-five minute break?
 B.: _____.
 A.: When and where do the students have their midday meal?
 B.: _____.
 A.: Where do your classmates and you prefer doing homework?
 B.: _____.
 A.: What kind of student are you?
 B.: _____.

34. Practise dialogue1.

Dialogue 1 **Taking an IT Programme**

Andrew: Where are you from?

James: I'm from Manchester.

Andrew: What year are you in?

James: I'm in my third year.

Andrew: How did you decide to study at London University?

James: My sister went to this university so I decided to follow in her footsteps.

Andrew: How did you become interested in information technology? What led you to the IT programme?

James: I was involved in IT long before even thinking about what university I wanted to attend. My interest started in high school. When I played video games at LAN¹ parties, I used to set up the server required to run the resources for the parties. That led me to learning more about Microsoft Windows Server and network administration, which drove me to the IT programme at London University. So I've been in the field for about six years now and wouldn't leave it for anything.

Andrew: What is your favorite course in IT at the university?

James: The IT practicum because students get on the job training while helping local companies of the city at the same time.

Andrew: What are your plans after graduation? If you're considering postgraduate study, what are your top choice programmes?

James: I would like to keep working for the university after I graduate. Also, next year I hope to start the Master's programme in management information systems.

Andrew: If you could have any IT job in the world, what would it be?

James: Director of the Office of Science and Technology Policy for a big international company.

Andrew: What advice would you give to a student who is considering majoring² in IT at London University?

James: Just go to university. If you do that, you'll pass with higher grades and have experience to put on your resume before you graduate.

Notes

¹**LAN (local area network) party** – собрание людей по интересам с их персональными компьютерами (чаще всего ради компьютерных игр)

²**major (in)** ['meɪdʒə] – специализироваться (в чем-л., на чем-л.)

35. Using the above dialogue as a model, make up and act a dialogue about the degree course you are doing.

36. Practise Dialogue 2.

Dialogue 2 **Talking about Exams**

Peter: How many exams did you take last term?

Bob: Four.

Peter: Did you pass all of them?

Bob: Certainly, but I didn't do very well, unfortunately I got a satisfactory mark in computer networks. How about you?

Peter: I passed three exams and failed mathematics.

Bob: But you were quite good at mathematics. Why did you fail the subject?

Peter: I'm afraid I was loafing the second half of the term; that's the reason.

Bob: They say you either go forward or slip back. I hope you'll manage to pass the exam in mathematics very soon.

37. Using dialogue 2 as a model, make up dialogues.

Situations: You meet your friend and talk about:

- a) progress in studies;
- b) end-of-term tests passed;
- c) exams passed.

38. Practise dialogue 3.

Dialogue 3 **Discussing the Timetable**

Alex: Boris, I would like to clear up a few questions. Will you explain some abbreviations in the timetable?

Boris: With pleasure.

Alex: What does LAB mean?

Boris: It means *laboratory class*. The students may carry out experiments and write reports about them there.

Alex: What about LEC?

Boris: That stands for *lecture*. A teacher gives lectures and students take notes.

Alex: The last abbreviation is SEM.

Boris: It stands for *seminar*. A teacher and the class discuss problems connected with a specific subject. The students frequently prepare reports and read them to the class.

Alex: Do all courses have examinations?

Boris: Yes, all of them do and students take them twice a year. They are called end-of-term exams.

Alex: Are there any other exams besides these?

Boris: Well, some teachers also give end-of-term tests.

Alex: What does a student's final mark depend on?

Boris: It depends on everything: on the examinations, tests, written assignments and often on attendance.

39. Make up and act dialogues considering the following assignments.

a) Your classmate asks you about your timetable.

b) You explain the meaning of the following forms of teaching to your classmate: a class, a lecture and a seminar.

SECTION 5 LISTENING

40. Listen to the text "Working Conditions of IT Specialists".

41. Complete the sentences according to the text.

Computer specialists and _____, network _____, and _____ administrators normally work in offices or laboratories in _____ surroundings. They usually work about _____ hours a week – the same as many other professional or office _____ do. However, evening or weekend work may be _____ to meet _____ or solve specific problems. With the technology _____ today, _____ is common for computer professionals. As _____ expand, more work can be done from _____ locations through modems, _____, electronic mail, and the Internet. Computer

_____ specialists and _____ administrators constantly interact with _____ and fellow _____ as they answer questions and give _____ advice. Those who work as _____ are away from their offices much of the time, sometimes _____ months working in a client's office.

42. Check your answers with your classmates and Tapescript 2A of the text. Look up the words you don't know in the dictionary.

43. Retell the text about working conditions of IT specialists.

44. Listen to the Text "Systems Analysts". As you listen to it, say which of these statements are true and which are false.

1. Businesses assist computer systems analysts with solving their computer needs.

2. Computer systems analysts' interests include new software creation.

3 Computer systems analysts stay competitive by assessing the requirements of the business.

4. For many entry-level systems analyst positions an engineering degree is acceptable.

5. Those working in scientific environments may only need a Bachelor's degree in information technology.

6. For computer systems analysts seeking a career in a business environment a degree in computer science may be preferable.

7. For those seeking senior-level analyst positions a graduate degree can be helpful.

45. Check your answers with your classmates and Tapescript 2B of the text. Look up the words you don't know in your dictionary.

46. Retell the text about systems analysts.

SECTION 6 WRITING

A fax message is the message that is sent or received over a fax machine (phone lines are used) or online fax service (high-speed Internet connection is used). The word *fax* comes from the word *facsimile* standing for *perfect copy*. A fax message is often sent when particular official correspondence needs to be sent or received urgently and it is not possible to send the documents via e-mail. In some cases, a fax may have been requested.

47. Study the parts and some features that are characteristic of a fax message. Read and translate the sample fax messages.

1.

Message by fax

To: James Danes, Robert Evans
Fax No.: 0 2998 678 594
From: Robert Gray, Trade Clothes Ltd.
Fax No.: 030 987 6543
Date: 22 March 2017
Pages: Three plus cover sheet

Re: Samples and cloth

Dear James,

Here is the information about the cloth you requested.
I'll be in Liverpool tonight so try me on the mobile (06871 654 322) until 11 p.m. if you need to know anything else.

Yours sincerely,

Robert Gray

2.

Message by fax

To: Peter M. Johnson
Fax No.: 0 3887 569 372
From: Thomas Andrews
Fax No.: 010 874 329
Date: 16 October 2017
Pages: Two (including this page)

Re: Order for computers

Dear Peter,

I am glad to hear that your trip is going well.

When you are in London, could you go to Software and Co. in 12 Orchard Street? They may have an order for us. Ask for Michael Dillon.

Send me a fax when you get back to Manchester so that we could keep in touch.

Best wishes,

Thomas Andrews

3.

Message by fax

To: The Manager, Hotel Plaza, Varna
Fax No.: 6 725 51 20
From: Boris Klimov, Belgorod, Russia
Fax No.: 8 472 102 21 09
Date: 18 June 2017
Pages: One

Re:

Dear Sir,

I have obtained the name of your hotel from the holiday guide received from your Information Centre. My friend and I would like to reserve a double room, preferably with a balcony. We are arriving in Varna on 10th July. We hope to stay for seven days leaving on 16 July. We understand that all your rooms are suites. Could you confirm this? Is it possible to have a room with a sea view? Please let me know if you have a room for these dates. I would also be grateful if you could tell me the price of a double room.

I look forward to hearing from you.

Yours faithfully

Boris Klimov.

48. Practise writing some faxes. Choose one of these tasks.

1. Write to Mr Redford from Oxford University. Say you are very delighted that you have been accepted to the university. Ask if the university can help you to organize accommodation for your stay.

2. Write to the import agent for Apple computers, enquiring about prices, delivery dates, and any other facts which you, as a prospective customer, would be interested in.

3. Write to the hotel you would like to stay. Ask for the accommodation you require. Be definite as to the approximate rates that you are willing to pay, and the length period of your stay. Indicate when you expect to arrive.

UNIT 3

COMPUTER SYSTEMS



Section 1. Grammar Practice:

Simple Tense Passive Voice. Impersonal Sentences. Emphatic Structure *it is/was ... that*. Modal Verbs and Their Equivalents.

Section 2. Vocabulary and Word Study:

Suffixes: *-age*; *-al*; *-ant*; *-ity*.

Section 3. Reading and Discussion:

Text 3A. Types of Computers.

Text 3B. The Main Components of a Computer.

Section 4. Speaking:

Using a Computer.

Section 5. Listening:

3A. Microprocessors.

3B. Desktop.

Section 6. Writing:

Filling in Forms.

SECTION 1 GRAMMAR PRACTICE

1. Compare the following pairs of the sentences and translate them into Russian (*Active Voice* vs. *Passive Voice*) (See *Grammar Reference 3.1*).

1. Somebody cleans the office every day. The office is cleaned every day. 2. Charles Babbage invented the first computer in 1838. The first computer was invented by Charles Babbage in 1838. 3. People in Singapore speak Chinese. Chinese is spoken in Singapore. 4. They ask the passengers not to speak to the driver. The passengers are

asked not to speak to the driver. 5. A well-known scientist will address the conference. The conference will be addressed by a well-known scientist. 6. A loud noise woke us up yesterday morning. We were woken up by a loud noise yesterday morning. 7. They will check up the results of the experiment tomorrow. The results of the experiment will be checked up tomorrow. 8. Somebody will tell you where to go. You will be told where to go. 9. Mr Smith will teach English to us. We will be taught English by Mr Smith. 10. Shakespeare wrote “Hamlet”. “Hamlet” was written by Shakespeare.

2. Use the following sentences in the negative and interrogative forms. Translate them into Russian.

1. These digits are easily multiplied. 2. The students will be explained how to solve this problem. 3. The program was written three days ago. 4. These complex calculations were carried out with the help of the computer. 5. The program will be loaded soon. 6. He was asked to speak at the meeting. 7. The computer’s basic units are tested regularly. 8. The results of computations will be recorded in the form of tables. 9. Some students are given a scholarship from the local education authority. 10. A new input device was discussed in class.

3. Rewrite the following active sentences as passive ones paying attention to the appropriate tense form.

Example:

A good education *gives* people the best chance of getting a job.
The best chance of getting a job *is given* to people by a good education.

1. I wrote a report on the computer this morning. 2. Students study a large number of subjects. 3. He will type the name of the file. 4. They will discuss the problems of artificial intelligence. 5. Large-scale integration technologies reduced the size of computers. 6. We measure the RAM of the computer in megabytes. 7. Large universities put most emphases on research. 8. He put his favourite programs on the desktop. 9. The desktop will only show a small number of icons. 10. Most computers run the Microsoft Windows operating system.

4. Complete the following sentences. Use the passive form (Present, Past or Future Simple) of the verbs in brackets.

1. How many languages _____ (speak) in Switzerland? 2. This examination _____ (take) tomorrow. 3. People often want to know what my progress in studies is. I _____ often _____ (ask) this question. 4. The lecture on computer science _____ (attend) by all the students yesterday. 5. The letter _____ (post) a week ago. 6. It's a big factory. Five hundred people _____ (employ) there now. 7. The company is not independent. It _____ (own) by a much larger company. 8. The students of my group _____ (examine) in classroom 5 in two hours. 9. The book _____ (write) in Spanish and a few years ago it _____ (translate) into English. 10. The conference _____ (hold) next week.

5. Read and translate the following sentences into Russian paying attention to the predicates used in the Passive Voice.

a) Example:

At most British universities *the academic year is divided* into three terms. – В большинстве британских университетах учебный год (*им. пад.*) *разделен (краткая форма причастия)* (*делится*) (*глагол, оканчивающийся на -ся*) на три семестра.

Английское подлежащее переводится на русский язык существительным или местоимением в именительном падеже.

1. Many books on the computer's architecture will be translated very soon. 2. This personal computer was constructed in our laboratory. 3. The constituent parts of the computer are called hardware. 4. The fundamental principles of programming are connected with the sequence of instructions. 5. All these calculations will be done by my friend. 6. In all the other universities subjects were taught in individual departments which were in turn grouped into faculties covering the main subject groupings, for example, arts, computer science, engineering, social science. 7. Universities and colleges are classed as higher educational institutions. 8. Some technological universities were named after famous people. 9. Each faculty will be divided into a number of departments.

b) Example:

He was paid \$200 to do the work. – Ему (косвен. пад.) заплатили (глагол в действительном залоге в 3-м л. мн. ч. с неопределенно-личным значением) \$200 для выполнения этой работы.

Английское подлежащее переводится на русский язык существительным/местоимением в одном из косвенных падежей.

1. He was offered a four-year programme leading to a Bachelor's degree in information technology. 2. I am never invited to parties. 3. He will be shown what to do. 4. He is often asked to speak at meetings. 5. I wasn't told that George was ill. 6. Bob was asked some difficult questions at the interview. 7. You will be given plenty of time to decide. 8. Where will you be sent by your company next year? 9. Charlie was given a lot of presents on his last birthday. 10. Children under the age of seven are not allowed in this pool.

c) Example:

The painting was attentively looked at. – На картину внимательно смотрели.

Английское подлежащее переводится на русский язык существительным или местоимением с предложом.

1. This article is often referred to. 2. His lecture was followed by a heated discussion. 3. His research is always paid great attention to. 4. The arrangements for his visit will not be influenced by outer factors. 5. When the delegation arrived, the designer was sent for. 6. His new book is much spoken about. 7. The results of William's examinations will be commented on by his teacher. 8. When I was young, I was looked after by my aunt and uncle. 9. His calculations are relied on by his fellow students. 10. He is often laughed at.

6. Put in *it is (it's)* or *is it*. Translate the sentences (See Grammar Reference 3.2.).

1. What time _____? 2. We must go. _____ very late. 3. How far _____ from New York to Washington? 4. _____ true that Bill can fly a helicopter. 5. "What day _____ today?" "No, _____

Wednesday.” 6. _____ ten kilometers from the airport to the city centre. 7. _____ rains a lot in winter. 8. _____ possible to phone you at your office? 9. How far _____ from the hotel to the beach? 10. _____ Bob’s birthday today. She’s 18.

7. Complete the sentences and translate them into Russian.

It’s	easy dangerous <i>difficult</i> nice impossible interesting	to	work in this office. <i>get up early in the morning.</i> visit different places. go out alone. see you again. make friends.
------	--	----	--

Example:

If you go to bed late, *it’s difficult to get up early in the morning.*

1. Hello, Jill. _____ . How are you? 2. _____ . There is too much noise. 3. Everybody is very nice at work. _____ . 4. I like travelling. _____ . 5. A lot of cities are not safe. _____ at night.

8. Read and translate the following sentences into Russian.

1. It is strange that she doesn’t remember me. 2. It takes four hours to get from here to Leeds. 3. It was Friday yesterday. 4. It’s surprising that she never comes to my place. 5. It’s nice to get up in the morning, but it’s nicer to stay in bed. 6. It will be Tuesday tomorrow.

9. Read and translate the following sentences into Russian (*See Grammar Reference 3.3.*).

1. It was Peter who left the message. 2. It is money that they want. 3. It was the secretary who sent Michael the photos yesterday. 4. It was her old bicycle that Em gave to Pat last week. 5. It was Ed who broke the window with a ladder today. 6. It was Nel who took the message. 7. It was this morning that the baby put marmalade on Dad’s trousers. 8. It is Becky who wants to see Helen today. 9. It was Yuri

Gagarin who started the era of cosmic flights. 10. It is tomorrow that he is going to call back.

10. Use the modal verbs *must, can, may / might, should, ought to* to complete the sentences. There may be more than one possible answer (See Grammar Reference 3.4.).

1. It's too far to walk from here to the station. You _____ take a taxi. 2. Sarah got the job because she _____ speak five languages. 3. The windows are dirty. I _____ clean them. 4. You _____ use a dictionary. 5. I like this hotel room. You _____ see the lake from the window. 6. It's a good film. You _____ see it. 7. He _____ take my book. 8. We _____ go to the bank today. We have no money. 9. When you are driving, you _____ wear a seat belt. 10. We _____ see the lake from our window. 11. If you have time, you _____ visit the museum. It's very interesting. 12. I _____ come and see you tomorrow. 13. She _____ use this computer program. 14. Your salary is very low. You _____ look for another job. 15. Mary is a very interesting person. You ... meet her. 16. Take an umbrella with you when you go out. It _____ rain later. 17. Sandra _____ drive but she hasn't got a car. 18. Tomorrow the game is very important for us. We _____ win. 19. Students _____ bring textbooks into the examination room. 20. It's late and you're very tired. You _____ go to bed.

11. Refer the following sentences to the past and the future by changing the forms of the modal verbs *must, can, may*; use them in the negative and interrogative. Translate the sentences.

a) 1. Every student must learn how to select computer programs. 2. He must store the data. 3. We must pass the examination in English. 4. I must finish the translation in time. 5. He must work hard. 6. Bob must learn these new words by heart.

b) 1. She can translate this sentence from English into Russian. 2. Jane can operate a computer. 3. I can hire a car from our local garage. 4. Dr Parker can see you at twelve on Tuesday. 5. They can use a computer to do calculations. 6. He can type very well.

c) 1. You may stop work early today. 2. The students may use this library. 3. He may take my bike. 4. John may work in the comput-

er room today. 5. You may go home after your lectures. 6. You may ask Dick to do that job for you.

12. Read and translate the sentences paying attention to the meaning and use of the modal verbs and their equivalent forms.

1. The first computer could operate at a low speed. 2. We have to study two programming languages. 3. You should learn programming to become a good specialist. 4. He was allowed to come later. 5. You won't have to work hard after your exam. You can have a holiday. 6. You must do well to get a place at university. 7. They may find the correct answer. 8. I am to go on a language course when I leave school. 9. He might as well stay here till the weather improves. 10. You don't have to do this exercise in writing. 11. I will be able to translate his article myself. 12. This question can only be decided by the head of the department. 13. You have to pass a special exam to be a programmer. 14. This university may be the aim of many applicants. 15. We will not be allowed to stay here till tomorrow. 16. When I was a teenager, we had to be at home by nine o'clock. But we didn't have to take as many exams as teenagers nowadays. 17. You should know a lot of English words to read books in the original. 18. We won't be able to attend the conference on cybernetics. 19. Jack couldn't do his homework last night. Can you help him now? 20. If I fail my exam, will I have to take it again? 21. When the fog lifts, we will be able to see where we are. 22. He was allowed to go further with the tests. 23. The President is to make a speech tonight. 24. You ought to go to these lectures, you may learn something. 25. When I was at school, I had to wear a uniform. 26. He might be on the next train. We might as well wait. 27. You should not use computer equipment without training. 28. You ought to buy now; prices may go up. 29. You are not allowed to work at his research. 30. He has to work hard at his English.

SECTION 2 VOCABULARY AND WORD STUDY

13. Read and memorize the active vocabulary to the texts of Unit 3 and translate the given sentences.

1. **attach** [ə'tætʃ] *v* – прикреплять, присоединять, подсоединять

attachment *n* – прилагаемый файл; прикрепление, присоединение, подсоединение; приспособление, приставка

It is easy *to attach* documents – you just click on the “insert” button here. Use this cable *to attach* the printer to the computer. I'll email my report to you as *an attachment*. This food processor has a special *attachment* for grinding coffee.

2. **average** ['ævərɪdʒ] *n adj v* – среднее (число); средний; обычный; в среднем равняться

on average – в среднем

They work *an average* of 30 hours per week. What is the *average* temperature in this town in August? I was just an *average* sort of student. Her expenses *averaged* 15 dollars a day. *On average*, prices have risen 6%.

3. **browse** [braʊz] *v* – просматривать (*напр.* файл)

browser *n* – браузер (программа для навигации и просмотра Интернет-сайтов)

This is an excellent graphical interface for *browsing* Web pages. The latest version of *the browser* allows you to listen to the radio while you surf the Net.

4. **button** [bʌtn] *n* – кнопка

mouse button – кнопка мыши

mouse wheel [wi:l] – колесико мыши

The buttons control the cursor of the screen. Choose “printer” from the menu and click with the right *mouse button*. In many applications, holding down the control key while rolling *the mouse wheel* causes the text size to increase or decrease.

5. **capable** ['keɪpəbl] *adj* – способный

capability [,keɪpə'bɪlɪti] *n* – способность

I want to see you achieve what you are *capable* of. He has *the capability* of becoming an excellent teacher.

6. **complete** [kəm'pli:t] *adj v* – полный, законченный, завершённый; заканчивать, завершать

When the chart is *complete*, stick it on the wall. The work *was completed* in March. She *completed* her training in spring.

7. **complex** ['kɒmpləks] *adj* – сложный, составной, комплексный; трудный

complexity ['kɒmpləks] *n* – сложность; что-л. сложное

sophisticated [sə'fɪtɪkeɪtɪd] *adj* – сложный, усложненный

A computer is a *complex* machine. These programs create additional *complexities* to the pricing system. The software grows more *sophisticated* over time.

8. **content** ['kɒntent] *n* – содержание, сущность; контент; (*pl.*) содержание, содержимое; объем, количество; оглавление

He has changed the course of his business from a computer hardware seller to a web designer and *content* provider for e-commerce sites. *The content* of the course depends on what the students would like to study. I can't find it in *the contents*.

9. **create** [kri'eɪt] *v* – создавать, творить

creation [kri'eɪ](ə)n *n* – создание; разработка

Create a new directory and put all your files into it. He was responsible for the database *creation*.

10. **delete** [di'li:t] *v* – удалять, стирать, вычеркивать

erase [i'reɪz] *v* – стирать (запись), разрушать (информацию)

enter ['entə] *v* – вводить, заносить, вписывать, записывать

Delete his name from the list. The typist tried to *erase* the error. You have to *enter* a password to access this information.

11. **depend** [di'pend] *v* – (on/upon) зависеть; обуславливаться

dependence [di'pendəns] *n* – зависимость; обусловленность

Their future *depends* on how well they do in these exams. The government wants to reduce industry's *dependence* on coal.

12. **desktop** *n* – рабочий стол (экранный интерактивный среда с представленными на экране символами рабочих компонентов пользователя)

desktop (computer) – настольный компьютер

general-purpose ['rə:pəs] **computer** – универсальный компьютер

laptop (computer) / **notebook (computer)** – лэптоп / ноутбук, переносной персональный компьютер

personal computer – персональный компьютер

personal digital assistant – «персональный цифровой секретарь», карманный персональный компьютер

tablet ['tæblɪt] (**computer**) – планшетный компьютер; планшет

mainframe computer – мэйнфрейм; мощный центральный компьютер, используемый для решения сложных вычислительных задач и обработки больших объемов информации

networked computer – сетевой компьютер

standalone computer – автономный компьютер

She has a picture of her cat on her *desktop*. I take my *laptop* when I travel. I carry a *notebook* so that I can write down any ideas. *Personal computers*, including *desktops*, *notebooks* and *tablets*, are all examples of *general-purpose computers*.

13. **disk** *n* – диск

floppy disk *n* – гибкий диск

hard disk *n* – жесткий диск

diskette [di'sket] *n* – дискета

disk drive – дисковод

A *disk* is used for storing computer information. *Hard disks* can store much more information than *floppy disks*. This information is available on *diskette*. *Disk drives* can either be housed internally within a computer or housed in a separate box that is external to the computer.

14. **download** ['daʊn,lʊd] *v* – загружать (информацию в компьютер), скачивать

downloadable *adj* – доступный для скачивания

stream [stri:m] *v* – слушать или смотреть на компьютере что-либо, напрямую взятое из интернета

You can *download* this software free from their website. You can *stream* the song for a single listen.

15. **icon** ['aɪkɒn] *n* – значок, пиктограмма (на экране компьютера), иконка

click on an icon – выбрать пиктограмму, щелкнуть на иконке

drag an icon – передвигать иконку

rotate [rəʊ'teɪt] **an icon** – вращать, поворачивать иконку

swipe [swaɪp] **an icon** – провести пальцем иконку

Click on the icon to open the file. He knows how to *drag icons*. There are several ways to *rotate an icon*. I *swiped* the desktop *icons* to launch this application program.

16. **key** [ki:] *n* – клавиша

function key – функциональная клавиша

press a key – нажимать на клавишу

keyboard ['ki:bɔ:d] *n* – клавиатура, клавишная панель

keypad ['ki:pæd] *n* – малая клавиатура

A *shift key* helps to shift letters on *the keyboard*. If you *press* this *key*, the computer screen will clear. A computer *keyboard* has a small numeric *keypad* on the side in addition to the other number keys.

17. **memory** ['meməri] *n* – память, запоминающее устройство

memory capacity – емкость памяти

memory chip – кристалл памяти

flash memory – флэш-память, энергонезависимая память, которая сохраняет свое содержимое без питания и регенерации

flash drive – устройство флэш-памяти, флэш-накопитель, флэшка

Compact Disk Read-Only Memory (CD-ROM) – ПЗУ на компакт-диске, компакт-диск

Random Access Memory (RAM) – память с произвольной выборкой

Read Only Memory (ROM) – постоянная память

The computer has a 256K *memory*. *Flash memory* is used for easy and fast information storage in such devices as digital cameras and home video game consoles. Insert *the flash drive* into the USB port. *CD-ROMs* are used mainly for storing software programs, or for multimedia programs, such as large encyclopedias. All the information in *RAM* is lost when the computer is turned off.

18. **motherboard** ['mʌðəbɔ:d]/**mainboard** ['meinbɔ:d] *n* – материнская плата, системная плата

Some additional components can be added to *a motherboard*.

19. **order** ['ɔ:də] *n* *v* – заказ; порядок; заказывать

obtain an order [əb'tein] – получать заказ

in order to – для того, чтобы

Your *order* is nearly ready. The house is in good *order*. They *ordered* some new finishing materials. The engineer, the architect and the designer should collaborate closely *in order to* obtain a result.

20. **refer** [ri'fə:] *v* – отсылать, направлять; справляться; относиться, иметь отношение (к чему-л.); ссылаться (на что-л.)

refer to information – обращаться к информации; обращаться за информацией

reference [ˈref(ə)rəns] *n* – ссылка; отсылка, сноска; рекомендация, отзыв

reference book – справочник

make reference to storage – обращаться к запоминающему устройству

These figures *refer* only to land for housing. He *referred* to the dictionary for the correct spelling of the word. I am writing with *reference* to your job application. Dr Smith wrote *a reference* for her.

21. **speaker** [ˈspi:kə] *n* – (компьютерная) колонка

loudspeaker [ˌlaʊdˈspi:kə] *n* – динамик; громкоговоритель

There is no sound coming out of the right-hand *speaker*. The police addressed the crowd through a *loudspeaker* in their car.

22. **task** [ta:sk] *n* – задача, задание

accomplish/carry out a task – выполнять задание

assign [əˈsain] **a task** – давать задание

Have you *accomplished* your *task*? We *carried out the task* efficiently. We *are assigning the task* to a team of experts.

23. **touch** [tʌtʃ] *v* – касаться, прикасаться

touchscreen/touch screen *n* – сенсорный экран (дисплей)

Move your cursor to the top of *the screen*. Customers use *a touchscreen* to buy tickets.

24. **unit** [ˈju:nit] *n* – устройство, узел, блок

central processing unit (CPU) – центральный процессор/ЦП

system unit – системный блок

tower [ˈtauə] *n* – вертикальный корпус (компьютера); вертикальный блок

The main operations are performed in *the CPU*. *A system unit* is the enclosure that contains most of the components of a computer.

14. Match the words with the definitions below.

a) tower	b) keyboard	c) attachment	d) motherboard	e) icon
f) browser	g) key	h) content	i) disk	j) speaker

1. the main circuit board of a computer;

2. a part to be pressed by a finger;
3. a tall narrow box that contains the parts of a computer;
4. a program that is used to read information on the Internet;
5. the part of a computer that the sound comes out of;
6. a document that you send to somebody using e-mail;
7. a small symbol on a computer screen;
8. the information or other material contained on a website;
9. the set of keys for operating a computer;
10. a flat circular object on which information can be stored.

15. Match the pairs of antonyms from A and B and translate them.

A

1. begin
2. remove
3. delete
4. inability
5. simple
6. delete

B

- a) enter
- b) sophisticated
- c) complete
- d) enter
- e) capability
- f) attach

16. Combine nouns from the left and right to form phrases.

1. mouse
2. disk
3. function
4. memory
5. flash
6. reference
7. system
8. touch

- a) book
- b) capacity
- c) wheel
- d) unit
- e) screen
- f) drive
- g) memory
- h) key

17. Match the noun(s) on the left with a suitable item on the right. Use each item once only.

- | | |
|------------------|--|
| 1. Mouse buttons | a) store information. |
| 2. The typist | b) was attached to the computer. |
| 3. Hard disks | c) plugs in at the back of the computer. |

- | | |
|-----------------|--------------------------------------|
| 4. The order | d) control the cursor on the screen. |
| 5. The printer | e) are downloadable. |
| 6. These files | f) is ready. |
| 7. The keyboard | g) erased the error. |

18. Replace the italicized words with the words below.

a) reference	b) accomplish	c) standalone	d) on average
e) swipe	f) assign	g) browse	h) complex
i) complete	j) click		

1. When you go online, you can *look at* different websites. 2. *Typically*, he watches three movies a week. 3. This small hand-sized computer is a fairly *sophisticated* machine. 4. A computer network consists of two or more *autonomous* computers that are connected together in order to share resources and application software. 5. *Press* the OK button to start. 6. Switch on the phone and *move* your finger across the screen to unlock it. 7. I think the students will *carry out* accomplished these task in less than ten minutes 8. *Full* details are available on request. 9. He is going to *give* him the task to set up a communications system. 10. He made no *mention* of her work.

19. Read and translate the following groups of sentences paying attention to the words in italics which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

- a). These dresses *button* at the back.
 - b) He pressed the *button* and waited for the lift.
 - c) My coat lost a *button*.
 - d) Click with he left mouse *button*.
- a) The food was fairly *average*.
 - b) His test results are well above *average*.
 - c) You'll have to calculate the *average*.
 - d) On *average*, people go away on holiday twice a year.
 - e) Economic growth is expected to *average* 2% next year.
- a) I usually *drive* to work.

- b) It is a three-hour *drive* to Moscow.
- c) There was a car parked on the *drive*.
- d) The flash *drive* is compatible with all PCs.
- 4. a) He could *key* the program to a younger audience.
- b) He used his *key* to open the door.
- c) Her story gave the *key* to the story.
- d) He played a *key* role in the dispute.
- 5. a) The computer puts the list in alphabetical *order*.
- b) You may place your *order* on the Internet.
- c) All your papers seem to be in *order*.
- d) What do I have to do in *order* to convince them?
- e) We have a full *order* book for the coming year.
- f) The general gave the *order* to advance.
- g) You can *order* this book online.
- h) The phone is out of *order*.

20. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Complex *n adj*, portable *adj*, bank *n*, department *n*, terminal *n*, geographically *adv*, occupy *v*, site *n*, disk *n*, actual *adj*, secret *n adj*, chaos *n*, general *adj*, standard *n adj*, component *n*, music *n*, photographic *adj*, result *n v*, minimize *v*, physical *adj*, characteristic *n adj*, rotate *v*, icon *n*, activate *v*, navigation *n*, mobile *adj*.

21. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Insurance companies, government departments, a disk drive, hardware units, the Internet connection, a mouse pad, user interaction, a word processed document, handwriting recognition software, satellite navigation facilities, mobile phone capability, a computer program, extra portable storage space, a backup facility, a computer case, a memory chip, an internal hard disk drive, presentation software, a system configuration, processor speed, a display panel, project work.

22. Study the ways some nouns are formed from verbs and adjectives. Form the nouns. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-age** (the suffix is used for an action, result, or cost of smth):

Example: cover – покрывать → **coverage** – покрытие, охват

Break, store, stop, waste, pack, use, carry, dose, pass, post, store, block, marry, leak, link, marry, waste.

b) **-al** (the suffix is used for an action of something):

Example: renew – обновлять → **renewal** – обновление

Remove, dismiss, deny, arrive, portray, withdraw, approve.

c) **-ant** (the suffix is used for a person / thing doing an activity):

Example: assist – помогать → **assistant** – помощник

Consult, occupy, inhabit, account, attend, contest, defend, depend, serve, claim, descend, inform, inhabit.

d) **-ity** (the suffix is used for quality):

Example: complex – сложный → **complexity** – сложность

Active, productive, fatal, secure, formal, diverse, creative, familiar, responsible, able, electric, popular, authentic.

23. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

A serious labour shortage, a leakage of toxic waste into the sea, the linkage between economic development and the environment, a contract for the carriage of goods, an increase in postage rates, a denial from senior officials, his dismissal for poor performance, a gradual renewal of links, the actor's portrayal of Othello, a betrayal of my principles, a personal digital assistant, a participant in a radio programme, a domestic servant, a car park attendant, the number of dependants you have, the growing equality of opportunity, the majority

of people, the complexity of modern telecommunication systems, the intensity of the light, the relative simplicity of the new PC.

SECTION 3 READING AND DISCUSSION

24. What types of computers do you know? Match each of the following types of computers with the correct picture.

- 1. A desktop computer.
- 2. A personal digital assistant.
- 3. A supercomputer.
- 4. A tablet computer.
- 5. A workstation computer.
- 6. A smartphone.
- 7. A laptop computer.
- 8. A mainframe computer.

a



b



c



d



e



f



g



h



25. Read the statements given below and say if they are right or wrong. If the statements are not true, make the necessary corrections.

1. Mainframe computers are often connected together in order to share data, programs and other resources.
2. A desktop computer has thousands of terminals attached to it at geographically remote locations.
3. A desktop computer combines its parts into a single, note-book-sized package.
4. A standalone computer runs local applications on its own.
5. Many families choose to buy a laptop instead of other types of computers because its users can create and store documents.
6. One problem with laptop computers is to connect additional components.
7. The defining characteristic of tablet computers is that user interaction is all through a mouse or keyboard.
8. People can use tablet computers to work on a word processed document.
9. Personal digital assistants don't have traditional keyboards.
10. Personal digital assistants are a type of diaries.
11. Smartphones can't be used as media players or cameras.

21. Read Text 3A “Types of Computers” and say if you are right or wrong. Discuss your answers with your classmates.

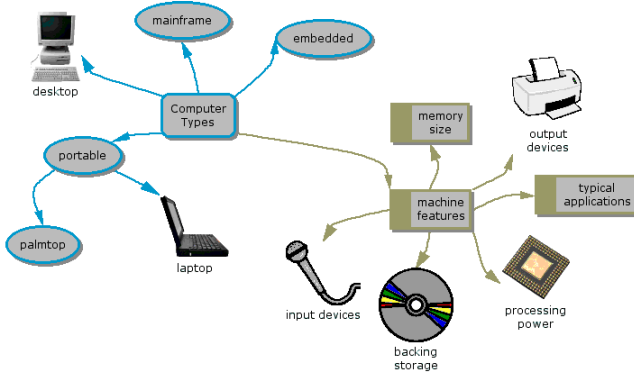
TEXT 3A

TYPES OF COMPUTERS

There are many different types of computer systems. Some computer systems are very big because they are used to carry out large and complex tasks. Others are small and portable – small enough to put in your pocket.

Mainframe computers are used by large organisations such as banks, building societies, insurance companies, airlines and government departments. A mainframe may have thousands of terminals attached to it at geographically remote locations, and occupy an entire site with hundreds of disk drives and other hardware units. Frequently, the actual siting of a mainframe computer is kept secret to lessen the danger of a terrorist attack that could cause chaos to an organisation.

Personal/desktop computers, or general-purpose computers, are used by individuals for many reasons. Personal computers have various standard components such as a tower, monitor, keyboard, and mouse. Some users create and store documents, some play games, others create music, video and photographic content; the applications are endless. When these computers are used by only one person at a time, a person who is in control of the application software being



used, providing any required data and using the processed results with no connection to any other resource, the computer and its use is

referred to as being standalone. These computers can be often connected together in order to share data, programs and other resources such as a printer, application programs or the Internet connection. In these cases the computers are considered to be networked together.

Laptop computers or notebooks are many people's preferred choice of computer because they offer the same processing capabilities as a desktop computer but are portable. Many families choose to buy a laptop instead of a desktop computer because they take up so little space, can be moved around the house depending on who is using it, and can be packed tidily away. A laptop computer has an inbuilt screen, keyboard and mouse pad, making it completely self-contained. Some people may choose to connect an external keyboard or mouse but leave them at home when using their laptop when they are out. Because a laptop is carefully designed to minimise necessary (physical) space, one problem is the ability to upgrade or add extra components. Tens of thousands of people carry laptops around every city every day. Like personal/desktop computers, laptops can be used as standalone computers or as networked computers.

Tablet computers are portable computers with slightly smaller screens than an average laptop. Their defining characteristic is that user interaction is all through touch. There is no mouse or keyboard. Users can swipe, drag and rotate icons on the screen to activate tasks, control the cursor and input data. The use of solid state flash memory means that these devices switch on and are ready for use very quickly. Tablets really exploit Wi-Fi technology because they are devices that many people will use for entertainment while on the move: reading newspapers and magazines; the Internet browsing; playing games; and watching TV programmes or films. This means that tablets need the fast Internet connection that downloading/streaming video/TV content demand. Tablets can run the same applications as laptops, so it would be possible to work on a word processed document or a spreadsheet for example. However, the virtual keyboard can be difficult to use for these tasks.

Personal digital assistants (PDAs) are small handheld computers with a touchscreen. Some have traditional keyboards behind or underneath the screen. Others display a keyboard on the screen. Some use handwriting recognition software to enter text. These machines have developed quickly from sophisticated diaries into small and powerful computers that include satellite navigation facilities (GPS), mobile phone capability and versions of application software that have a limited range of functions. Personal digital assistants are designed for organising information: diary, calendar, alarm, clock, address book, etc.

Smartphones are advanced mobile phones that are combined with the functions of a PDA, with, among other features: web browsers, high-resolution touch screens, GPS navigation and Wi-Fi access. They are often used as media players and cameras [*Types and Components of Computer Systems. Collins.co.uk*].

22. Find in the text the paragraph saying about personal digital assistants, translate it into Russian and read it aloud.

23. Complete the following sentences with details from the text.

1. Mainframe computers are used by _____.
2. Desktop computers have various standard components _____.

3. Many people choose to buy a laptop _____.
4. Tablet computers use _____.
5. Personal digital assistants have developed from _____.
6. Smartphones are advanced mobile phones _____.

24. Locate the following details in the Text. Give the line numbers.

1. In which lines does the author mention about the actual siting of a mainframe computer?
2. Where in the text does the author discuss different applications of desktop computers?
3. At what point in the text does the author discuss the uses of laptop computers?
4. Where in the text does the author discuss the operation of tablet computers?
5. In which lines does the author mention the software of personal digital assistants?

25. Explain the following references.

1. ...*they* are used to carry out large and complex tasks.
What does the pronoun *they* refer to?
2. ...and *its* use is referred to as being standalone.
What does the pronoun *its* refer to?
3. ...*they* offer the same processing capabilities as a desktop computer...
What does the pronoun *they* refer to?
4. ...*they* are devices that many people will use for entertainment while on the move...
What does the pronoun *they* refer to?
5. *Others* display a keyboard on the screen.
What does the pronoun *others* refer to?
6. They are often used as media players...
What does the pronoun *they* refer to?

26. Find in the text the Passive Voice sentences with the predicates in the Simple Tenses and translate them into Russian.

27. Underline or mark the main ideas of the text and retell it in English.

28. Skim Text 3B “The Main Components of a Computer” and try to understand what it is about. What information is new to you?

TEXT 3B

THE MAIN COMPONENTS OF A COMPUTER

Computer systems are made up of hardware and software. Computer hardware is made up of the parts of the computer that you can touch: its physical components. Software consists of the computer programs that tell the computer what to do in response to a command.

When you look at a computer and all the peripheral devices that are attached to it, you can see the examples of hardware, such as a monitor, a keyboard, a mouse, a printer, speakers and a scanner. Some peripheral devices have more than one function. Many people now choose to have their scanner, photocopier and printer together in one device, which are widely known as all-in-one printers. Touch-sensitive screens allow us to use them as input devices as well as output devices. Having an external hard drive is an excellent way of giving yourself extra portable storage space as well as providing a backup facility. There is other hardware that is built into, or inside the computer case (or tower) including memory chips, processing chips, a motherboard, video cards, sound cards and an internal hard disk drive.

There are two types of software:

1. *System software.* These are programs and files that make up the computer's operating system. The examples of system software include the software to connect with the printer that controls the way the screen appears, the software that deletes a file or a folder.

2. *Application software.* These programs allow users to write letters, solve problems, perhaps using spreadsheet and database software, or to play games. The examples of applications software: word processing, presentation software, modelling software, databases, desktop publishing, video editing software, apps.

Computer systems also include a processor and memory. Computer systems are made up of many devices. Some devices, such as keyboards and scanners, are used to input data to a computer. Other devices, such as a printer or speakers, are needed so that we can understand the output from a computer. Peripheral devices such as these provide data for the processor or central processing unit (CPU) to work with and then to communicate the results of that processing.

A motherboard (sometimes known as the mainboard or system board) is the main circuit board found in a computer. It holds the crucial electronic components of the system, such as the processor and main memory. It also provides connectors for other peripherals such as video and sound cards, and USB devices such as a mouse. The non-volatile memory will be attached to the motherboard. If the processor is the “brain” of the system, then the motherboard is the “spine” onto which all other devices are connected.

The processor is at the centre of a system, between input, output and storage devices, and is known as the central processing unit. The processor interprets and executes commands from the computer’s hardware and software; it is a single integrated circuit, also found in many devices that involve control and monitoring.

The main memory of the computer stores all the data and instructions that enable the computer to function. There are other names for the main memory: internal memory, central memory, primary memory. There are two types of central memory: RAM (Random Access Memory) and ROM (Read Only Memory).

RAM is an internal memory chip where data is stored temporarily when applications are running. If your program is large, such as Word or Photoshop, you might notice that it takes a while to load. This is because it is being brought from your computer’s hard drive (where it is stored) into RAM. From here the processor can rapidly respond to instructions, as the program is immediately accessible in RAM. RAM can be both read and written to. RAM is volatile (temporary), because its contents are lost when the power is turned off.

ROM stores data or instructions that need to be permanent. Permanent memory is used to store the processes that the computer needs to go through when it is switched on. ROM retains its contents when the power is switched off. It is also known as non-volatile or permanent memory. An important use of ROM is to store the software

that allows a machine to start up successfully. This software is known as BIOS, or Basic Input and Output System, and it loads and runs the boot file (the start-up instructions). When the computer is switched on, BIOS starts the boot file sequence, which checks that all the hardware devices are attached and are working properly, copies the operating system to the RAM, stores the date, time and system configuration on a battery-powered non-volatile chip known as a CMOS (a Complementary Metal Oxide Semiconductor) [*Types and Components of Computer Systems. Collins.co.uk*].

29. Ask your classmates:

a) what computer hardware is made up of; b) what software consists of; c) what peripheral devices can be attached to a computer; d) what the examples of system software and application software are; e) what peripheral devices provide data for the CPU; f) why the motherboard is called the “spine” of the system; g) what the functions of a processor are; h) whether there are some other names for the main memory; i) what the abbreviations RAM, ROM, BIOS and CMOS stand for; j) what the important uses of RAM and RAM are.

30. Complete the sentences choosing the best variant corresponding to the contents of Text 3B.

1. All-in-one printers have ...
 - a) a scanner, photocopier and keyboard.
 - b) a photocopier, printer and speakers.
 - c) a printer, scanner and photocopier.
2. System software ...
 - a) makes up the computer's operating system.
 - b) allows users to write letters and solve problems.
 - c) provides databases.
3. Keyboards and scanners are used ...
 - a) to provide data for the processor.
 - b) to communicate the results of the processing.
 - c) to input data to a computer.
4. A motherboard holds ...
 - a) the main circuit board.

- b) the important electronic components of the system.
 - c) volatile memory.
- 5. The processor ...
 - a) controls and monitoring.
 - b) is between input and output devices.
 - c) is not found in any devices.
- 6. The contents RAM are lost when ...
 - a) applications are running.
 - b) it takes a while to load.
 - c) When the power is turned off.
- 7. ROM retains its contents when ...
 - a) a machine starts up.
 - b) the power is switched on.
 - c) the power is switched off.

31. Identify the topic of each paragraph of the text and retell it in English.

SECTION 4 SPEAKING

32. Practise the following illustrative dialogues.

Dialogue 1 **A New Computer**

Bill: I bought a new computer yesterday.

Robert: You bought a new computer?

Bill: Yes, a new notebook computer.

Robert: Why didn't you buy a desktop computer?

Bill: The notebook is light, and has a battery, so I can use it anywhere. I can use it on the train or the bus.

Robert: Isn't the keyboard too small to use?

Bill: It's compact, but I'll get used to it.

Robert: I think large keyboards are easier to use than small ones. Also, desktop computers are more powerful than notebooks.

Bill: That's true, but my notebook computer is powerful enough for me.

Robert: Aren't notebooks more expensive than desktop computers?

Bill: Yes, desktop computers are usually less expensive, but notebook computers are portable. I can use my notebook in any room, and when I'm done, I can put it away. You can't put away a desktop computer.

Robert: That's true, but my desktop computer doesn't take too much space. It's an iMac.

Bill: That's a cool computer. I bet my Windows notebook was cheaper than your iMac.

Robert: You get what you pay for.

Bill: Funny.

Dialogue 2 **Hooking Up My Computer**

Peter: Hi, Jack. Can you give me a hand?

Jack: Sure. What's up?

Peter: I've just bought a new computer and I'm having some problems hooking everything up.

Jack: I see. I'd be happy to help.

Peter: Thanks! I've connected all the cables from my monitor, mouse and keyboard, and I've plugged it in.

Jack: Have you installed the software yet?

Peter: No, I haven't. Do I need to?

Jack: Certainly, you need. It is also necessary to install drivers for your keyboard and mouse, as well as your printer.

Peter: OK. What's that thing? (*points to a computer component*)

Jack: Oh, that's a memory reader. You can insert things like SD cards from your camera and MP3 players into it.

Peter: That's handy.

Jack: You've bought a nice system. How big is the hard drive?

Peter: I think it's 750 gigabyte.

Jack: Good. Now let's install those drivers.

Peter: Before we do that, can I get online?

Jack: Do you have a modem?

Peter: Yes, I do. I think I have a cable modem.

Jack: hmmm... yes you do. Is the Ethernet cable plugged in?

Peter: What's that?

Jack: It's the cable that connects your modem to your computer.

Peter: Let's surf the Internet!

Jack: Just a moment. First we need to launch the browser.

Peter: The browser?

Jack: It's the program that allows you to surf the Internet.

Peter: Oh, I've got a lot to learn.

Jack: Yes, you do. I can see I'm going to be here all day.

33. Answer the following conversation questions about using a computer.

1. Can you remember the first time you used a computer?
2. Would you rather use a desktop computer or a laptop?
3. What software do you use most often?
4. Is your computer connected to the Internet at home?
5. What websites do you visit most often?
6. Have you ever studied English using your computer? If so, what did you think of the experience?
7. Do you visit many English-language websites while surfing? Is this for study or pleasure?
8. Do you play computer games? Which ones do you like?
9. Would you like to spend more time with your computer or would you like to spend more time with friends?
10. How frequently do you check your e-mail?
11. Do you consider yourself to be computer literate?
12. Do you try to keep up to date with computer technology?
13. Do you think computers are a vital part of your life?
14. What do you think computers will be used for in future?

34. Make up dialogues of your own using the illustrative dialogues as models and the above conversation questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

35. Listen to the Text “Microprocessors” and answer the questions that follow.

1. What is the processor designed for?
2. What is the difference between a processor and a microprocessor?
3. What tasks does a microprocessor carry out?
4. What types of computers are mentioned in the text?
5. What home devices are controlled by a microprocessor?

36. Check your answers with your classmates and Tapescript 3A. Look up the words you do not know in your dictionary.

37. Retell the text about microprocessors.

38. Listen to the Text “Desktop”. Which of the statements are true and which are false?

1. The desktop appears before you turn on your computer.
2. When you buy a new computer and boot up for the first time, the desktop will show a lot of icons.
3. Double-clicking on an icon with the mouse does not open a computer program.
4. Files are usually inside folders.
5. You can move icons in different directions.
6. Deleted files go to *My Computer*.
7. People usually put their favourite programs on the desktop.
8. Use the C: drive to open disks.
9. The Control Panel folder contains the *Display* icon.

39. Check your answers with your classmates and Tapescript 3B. Look up the words you do not know in your dictionary.

40. Retell the text about the desktop.

SECTION 6 WRITING

41. We have to fill in different forms on various occasions. Forms do not usually ask questions, but they ask for information. Match an expression in A with a question in B.

- | A | B |
|-----------------------|--------------------------------------|
| 1. First name | a) When were you born? |
| 2. Surname/Last name | b) Where are you living now? |
| 3. Title | c) What degree/diploma do you have? |
| 4. Date of Birth | d) What is your phone number? |
| 5. Place of Birth | e) Are you married or single? |
| 6. Country of origin | f) What is your family name? |
| 7. Present address | g) What is your rank/status? |
| 8. Permanent address | h) What do you do in your free time? |
| 9. Marital Status | i) Where do you come from? |
| 10. Occupation | j) What is your first name? |
| 11. Qualifications | k) Where do you live? |
| 12. Hobbies/Interests | l) What do you do? |
| 13. Tel. no. | m) Where were you born? |

42. Forms ask you to do certain things. Do the following.

1. Write your name in block capitals. _____
2. Put a cross if you are male. ☐
3. Put a tick if you are a female. ☐
4. I am a university student / an employee / an employer.
(delete where are not applicable)
5. Sign your name. _____
6. Please specify which presentation session/s (up to two) you would like to attend. _____

7. Please specify dietary requirements for lunch (including if vegetarian / non-vegetarian / other): _____

43. Study the parts and some features that are characteristic of some forms. Practise filling in them.


a) A university enrolment form.

UNIVERSITY ENROLMENT FORM	
Please fill in this form in BLOCK CAPITALS.	
Title	
First name	
Last name	
Address	
Postcode	
Date of birth	
Nationality	

b) A library card form.

Name: _____		Oxford Street Library
<div style="border: 1px solid black; width: 150px; height: 80px; display: flex; align-items: center; justify-content: center;"> Photo </div>	Address: _____	
	City: _____	
	Postcode: _____	
	Phone: _____	
Date of birth: _____		Mobile: _____
		E-mail: _____

c) A membership application form.

Application for Membership	 DVD WORLD
First Name: _____	
Surname: _____	
Title: Mr <input type="checkbox"/> Mrs <input type="checkbox"/> Miss <input type="checkbox"/> Ms <input type="checkbox"/>	
Address: _____	
Telephone: _____	
Daytime Contact Number: _____	
Date of Birth: _____	
<p>I am applying for membership of DVD World. I agree to abide by the rules of DVD World. I declare that the information given above is true and correct to the best of my knowledge.</p>	
Signature: _____	
Date: _____	

e-mail: _____
Room type required: _____
Single or Double occupancy _____
Arrival Date: _____ Departure Date: _____
Total: _____ nights
Flight Carrier: _____ Arrival time at Athens Airport: _____
I authorise the Hotel to charge my credit card with the amount indicated above as advance payment for _____ nights stay (<i>please print</i>).
Credit Card type: _____ Number: _____
Exp. Date: _____
Cardholder Name: _____ Signature: _____
Date: _____

44. Use the Internet to find the information regarding some other types of forms. Choose one and fill it in. Present this form to the class.

UNIT 4

COMPUTER PERIPHERALS



Section 1. Grammar Practice:

Present, Past and Future Continuous (Active and Passive Voice). *One(s)* and *that (those)* as substitution words. *One* meaning *people in general*.

Section 2. Vocabulary and Word Study:

Suffixes: *-ian*; *-ist*; *-ness*; *-cy*.

Section 3. Reading and Discussion:

Text 4A. Peripheral Devices.

Text 4B. Printers.

Section 4. Speaking:

Computer Problems.

Section 5. Listening:

4A. A Computer Keyboard.

4B. A Computer Mouse.

Section 6. Writing:

CV.

SECTION 1 GRAMMAR PRACTICE

1. Study the forms and use of the Present, Past and Future Continuous Tense in Grammar Reference 4.1. – 4.2. Compare the pairs of sentences and translate them.

1. They *clean* the office every day. They *are cleaning* the office now. 2. They *cleaned* the office yesterday. They *were cleaning* the office when I came. 3. They *will clean* the office tomorrow. They *will be cleaning* the office when I come. 4. The office *is cleaned* every day. The office *is being cleaned* now. 5. The office *was cleaned* yesterday. The office *was being cleaned* when I came.

2. Choose the correct translation of the predicates in italics (Simple/Continuous in Active/Passive).

- | | |
|--|---|
| 1. Bob <i>did</i> the job yesterday. | a) была выполнена
b) выполнил
c) выполняет |
| 2. Bob <i>is doing</i> the job now. | a) выполняет
b) выполнит
c) выполнил |
| 3. The job <i>will be done</i> by Bob tomorrow. | a) была выполнена
b) выполняется
c) будет выполнена |
| 4. Bob <i>was doing</i> the job when I phoned him. | a) выполнял
b) выполнил
c) была выполнена |
| 5. Bob often <i>does</i> this job. | a) выполнит
b) выполнил
c) выполняет |
| 6. The job <i>was done</i> by Bob yesterday. | a) выполнил
b) была выполнена
c) будет выполнена |
| 7. The job <i>was being done</i> by Bob when I phoned. | a) выполнялась
b) была выполнена
c) будет выполнена |
| 8. Bob <i>will do</i> the job tomorrow. | a) выполнил
b) выполняет
c) выполнит |
| 9. This job <i>is done</i> by Bob every day. | a) выполнена
b) будет выполнена
c) выполняется |
| 10. The job <i>is being done</i> by Bob now. | a) была выполнена
b) выполняется
c) будет выполнена |
| 11. Bob <i>will be doing</i> the job at this time next year. | a) будет выполнять
b) выполняет
c) выполнял |

3. Write the following sentences in the negative form. Then change them to general, alternative, special (beginning with the question-words given in brackets) and tag questions.

1. Bob was working in the computer room when I came in. (*Where? When? Who?*) 2. They will be calculating the results of the experiment between 10 and 12. (*When? What? Who?*) 3. The program is being loaded now. (*When? What?*) 4. My classmate is writing some English words on the blackboard now. (*Where? When? Who? Whose?*) 5. The computer was being tested when I was there. (*When? What?*) 6. My friends are writing a report on computer peripherals now. (*What? When? Who? Whose?*) 7. He was having a computer class in room No. 12 at 3 o'clock yesterday. (*Where? What? When? Who?*) 8. The computer is being used at the moment. (*What? When?*) 9. We were being questioned and our car was being searched at the same time. (*Who? What? When?*) 10. She will be working in the laboratory at 10 o'clock tomorrow. (*Where? When? What time? Who?*)

4. Rewrite the active sentences as passive ones and translate them.

Example:

Mary *is cleaning* the room. –

The room *is being cleaned* by Mary.

1. They are building a new computer centre near the university.
2. Somebody was recording our conversation. 3. They are repairing your computer now. 4. They were discussing computer's architecture at that time yesterday. 5. The computer was loading the operational system when my friend called me. 6. The computer is still testing its basic units. 7. They are showing a new film at our local cinema. 8. When I saw the car, they were driving it at over fifty miles an hour.

5. Complete the following sentences, using a) the Active Continuous or b) the Passive Continuous forms of the verbs in brackets. Translate the sentences into Russian.

a) Active

1. Don't phone me between 7 and 8. We _____ (have) lunch then. 2. Mary fell asleep while she _____ (read) the paper. 3. I

_____ (have) dinner with my friends at 8 o'clock yesterday. 4. The airline currently _____ (sell) half-price tickets to Japan, but for one month only. 5. "You _____ (work) hard today." – "Yes, I have a lot to do." 6. We _____ (play) tennis from 3 o'clock until 4.30 tomorrow afternoon. 6. Do you think you _____ (do) the same job in ten years' time? 8. It _____ (get) dark. Shall I turn on the light?

b) Passive

1. Too little money _____ (spend) by the government on education now. 2. My friend _____ (ask) a lot of questions about his work when I entered the room. 3. Ann can't use her office at the moment. It _____ (redecorate). 4. Large areas of forest _____ (destroy) now. 5. The tennis court _____ (use), so we couldn't play. 6. The new computer system _____ (install) at the moment. 7. Now a new supermarket _____ (build). 8. There was somebody walking behind us. I thought we _____ (follow). 9. She _____ (treat) in hospital now. 10. The guests _____ (offer) drinks when I came to the party.

6. Translate the following sentences into Russian paying attention to the predicates used in the Active/Passive Continuous forms.

1. While one program was executing, the operating system was scheduling the use of input and output devices for other jobs. 2. The user will be giving instructions to the computer to start a program. 3. Computers are transforming the ways in which learn, communicate, do business, enjoy our leisure and live our everyday lives. 4. The technique of multi-programming was being developed in the company when he joined it. 5. Word Processing and Desktop Publishing software are being used in the home and in business to produce well-presented documents. 6. I am using JavaScript to make my website interactive. 7. I am being asked what I think of new software products. 8. The file was being copied to a new disk. 9. On this course you will be learning about the internal structure of computers, how they operate and how they are used in solving problems. 10. The printer was sending the message that it was out of paper.

7. Read and translate the following sentences with *one (ones)* used as indefinite pronouns meaning *people in general* and as substitution words (See *Grammar Reference 4.3.*).

1. "Have you seen the dictionary?" – "Is that the one that was published recently?" 2. World trade is improving, but one cannot expect miracles. 3. "Which computer did you use?" – "The one that is in your office." 4. "Have you met our German neighbours?" – "Are they the ones who moved here recently?" 5. One can't learn English in a month. 6. "What sort of job would you like to do?" – "One where I travel a lot." 7. One can't get a driving licence until one is seventeen. 8. One should do one's best at all times. 9. I don't want to wear my old shoes. I want to wear my new ones. 10. "Is it easy to go camping in the country?" – "Yes, but one is not allowed to camp where one likes. One can only use camp-sites."

8. Read and translate the following sentences with *that* (*those*) used as substitution words (See Grammar Reference 4.3.).

1. The operating system for a standalone microcomputer will be very much simpler than that of a supercomputer which is controlling hundreds of terminals and running many different kinds of jobs simultaneously. 2. The price of gold is higher than that of silver. 3. The computers at our college are not so up-to-date as those at yours. 4. Students who study information technology can expect higher earnings than those of students who study history. 5. This model is identical with that described above. 6. The output of this factory increased as against that of 2002. 7. The results were favourable, especially those which were obtained by John. 8. This is a new instrument, its accuracy is higher than that of the old one. 9. The problems of lighting in this town are as important as those of heating. 10. The freezing point of water on the Centigrade scale is 0° and that on the Fahrenheit scale is +32°.

SECTION 2 VOCABULARY AND WORD STUDY

9. Read and memorize the active vocabulary to the texts of Unit 4 and translate the given sentences.

1. **boot** [bu:t] *n v* – (начальная) загрузка (компьютера); загружать; выполнять начальную загрузку

This computer *boots* quickly.

2. **burn** [bɜ:n] *v* – записывать файлы на компакт-диск

He *has burnt* all his favourite records onto a CD.

3. **bus** [bʌs] *n* – шина; магистральная шина, магистраль; канал (передачи информации)

external [ik'stə:nl] **bus** – внешняя шина

internal [in'stə:nl] **bus** – внутренняя шина

firewire ['faɪəwaɪə] *n* – скоростной последовательный интерфейс

USB (Universal Serial Bus) – универсальная последовательная шина, интерфейс USB (*ю-эс-би*)

A *bus* transfers data between computer components inside a computer or between computers. All new PCs now have *USB* sockets. *Firewire* is often used in a personal computer.

4. **cable** ['keɪb(ə)l] *n* – кабель, кабельный шнур

wire ['waɪə] *n* – провод; проволока

wireless ['waɪələs] *adj* – беспроводной

These *cables* can carry computer data. Where does this *wire* go? The café offers free *wireless* Internet access.

5. **compatible** [kəm'pætəb(ə)l] *adj* – совместимый

compatibility [kəm,pætə'biliti] *n* – совместимость; соответствие

This keyboard is *compatible* with all of our computers. Software *compatibility* is a characteristic of software components or systems which can operate satisfactorily together on the same computer, or on different computers linked by a computer network.

6. **connect** [kə'nekt] *v* – соединять, присоединять; включать, подключать,

connection [kə'nekʃ(ə)n] *n* – соединение, связь, присоединение; включение, подключение

disconnect *v* – разъединять, размыкать

connector *n* – соединитель, (штепсельный) разъем

These terminals *are connected* to our mainframe computer. All classrooms will be wired for *connection* to the Internet. Switch off the machine before *disconnecting* it from the power supply. Each bus defines its set of *connectors* to plug devices, cards or cables together.

7. **distinct** [di'stɪŋkt] *adj* – явный, отчетливый; различный, разный

distinct (from) [di'stɪŋkt] *adj* – отличный (от других)

distinction [di'stɪŋ(k)ʃ(ə)n] *n* – различие; разграничение

There has been a *distinct* improvement in your work. This word has three *distinct* meanings. The various dialects *are quite distinct from* one another. Philosophers did not make *a distinction* between arts and science.

8. **durable** ['dʒʊərəbl] *adj* – долговечный, прочный

durability [ˌdʒʊərə'bɪləti] *n* – долговечность, прочность

The fundamental object in proportioning this material is the production of a *durable* material. The major characteristics of aluminum is its *durability* and light weight.

9. **expand** [iks'pænd] *v* – расширять(ся), распространять(ся)

expansion [ik'spæŋʃn] *n* – расширение, растягивание

expansion card – плата расширения, расширительная плата

We are hoping *to expand* our range of products. They are planning a major *expansion* in research. The basic purpose of *expansion* cards is to enhance the existing abilities of the motherboard.

10. **facilitate** [fə'sɪleɪtɪ] *v* – облегчать, способствовать

I will do everything in my power *to facilitate* the process.

11. **frequent** ['fri:kwənt] *adj* – частый

frequency ['fri:kwənsi] *n* – частота; повторяемость

His calls became less *frequent*. He mentioned the alarming *frequency* of computer errors. There are only a limited number of broadcasting *frequencies*.

12. **increase** ['ɪŋkri:s] *n* – возрастание, увеличение; [ɪn'kri:s] *v* – возрастать, увеличивать

decrease ['di:kri:s] *n* – уменьшение, снижение, падение; [ˌdi:'kri:s] *v* – уменьшать, снижать, падать, убывать

The use of computers and the Internet marked a significant *increase* in this country last year. Laptop computer usage *has increased* significantly. I haven't noticed much *decrease* in interest. The number of new students *decreased* from 210 to 160 this year.

13. **input** ['ɪnput] *n v* – входные данные; ввод, вход; вводить данные

output ['aʊtput] *n v* – выходные данные, выходящая информация (на компьютере); вывод, выход; производительность; выводить, подавать на выход

input data – входные данные

output data – выходные данные

input device [di'vaɪs] – устройство ввода

output device – устройство вывода

input/output device – устройство ввода/вывода

This program accepts *input* from most word processors. *The inputs* for the CD-ROM are at the back of the computer. I have spent the morning *inputting* data into the computer. You can look at *the output* on screen. Last year manufacturing *output* fell by 14 percent. The most commonly used or primary *input devices* on a computer are the keyboard and mouse. Monitors and printers are two of the most common *output devices* used with a computer.

14. **peripheral** [pə'rɪf(ə)rəl] *n* – периферийное устройство (оборудование), внешнее устройство

CRT (Cathode Ray Tube) monitor – ЭЛТ-монитор, монитор на основе электронно-лучевой трубки

LCD (Liquid Crystal Display) monitor – ЖК-монитор, жидкокристаллический монитор

LED (Light-Emitting Diodes) monitor – LED-монитор, монитор на основе светоизлучающих диодов

Common output *peripherals* include computer displays, printers, projectors, and computer speakers. This is a PC with a 17-inch colour *LCD monitor*.

15. **point** *n v* – точка, пункт; точка (знак); указывать, показывать

pointer *n* – указатель; стрелка (курсор в форме стрелки)

pointing device – устройство управления позицией; координатное устройство; указательное устройство

The error occurred when someone left out the decimal *point*. When we reached this *point* of the journey we stopped to rest. Select the function you require by *pointing* to the toggle with the mouse and then clicking. Move the mouse *pointer* to select the area of the picture to be displayed.

16. **print** *n v* – печать, распечатка; печатать, распечатывать

printout *n* – распечатка, вывод (данных) на принтер

dot-matrix printer – точечно-матричный принтер

inkjet ['ɪŋk,dʒet] **printer** – струйный принтер

laser ['leɪzə] **printer** – лазерный принтер

plotter ['plɒtə] *n* – плоттер; графопостроитель

type ['taɪp] *v* – набирать на клавиатуре; печатать

I can't read small *print* without glasses. The photocopier isn't *printing* well. The rate of *the laser printer* is 10 or more pages per minute. This *printout* contains some information about recent sales. He *types* with only two fingers.

17. **remove** [ri'mu:v] *v* – удалять, устранять; перемещать

removal [ri'mu:vəl] *n* – устранение; удаление; перемещение

removable [ri'mu:vəb(ə)l] *adj* – съемный, сменный

Illegally parked vehicles *will be removed*. Translation software should effectively *remove* all barriers to communication between people. The dryer has a *removable* filter.

18. **replace** [ri'pleɪs] *v* – заменять; подставлять

replacement *n* – замена; замещение; перестановка

We *replaced* the old television set with a newer one. *The replacement* of the existing computer equipment is very expensive.

19. **port** [pɔ:t] *n* – порт (вход или выход устройства)

slot *n* – гнездо (*напр.* для разъема); прорезь; паз

socket ['so:kit] *n* – гнездо; (соединительная) панель; розетка (гнездовая часть разъемного соединения)

There are usually six to eight USB *ports* on a computer. The battery charger plugs into any mains *socket*.

20. **transfer** ['trænsfə:] *n* – передача; пересылка; перенос; [træns'fə:] *v* – передавать; пересылать; переносить

data transfer – передача (пересылка) данных

You can *transfer* data to a memory stick in a few seconds. I did a file *transfer* from one PC to another.

10. Match the words with the definitions below.

a) socket	b) plotter	c) pointer	d) port	e) peripheral
f) bus	g) input	h) firewire	i) cable	j) constraint

1. An interface to which you can connect a device.

2. A set of conductors that forms a main transmission path.
3. A thin, flexible thread of metal.
4. Information that is put into a computer.
5. A device that creates a graph or chart from information.
6. A set of wires that carries electricity, phone signals, etc.
7. A piece of equipment that is connected to a computer.
8. A high-speed serial bus.
9. An opening on a piece of equipment into which a plug fits.
10. A small symbol that marks a point on a computer screen.

11. Match the following English words with the Russian equivalents.

- | | |
|------------------|-----------------------------|
| 1. connection | a) уменьшение |
| 2. transfer | b) долговечность, прочность |
| 3. removal | c) расширение |
| 4. decrease | d) передача, пересылка |
| 5. compatibility | e) частота |
| 6. expansion | f) присоединение |
| 7. replacement | g) замена |
| 8. durability | h) совместимость |
| 9. frequency | i) различие; разграничение |
| 10. distinction | j) удаление |

12. Match the following attributes on the left with a suitable noun on the right.

- | | |
|--------------|-------------|
| 1. internal | a) device |
| 2. expansion | b) point |
| 3. output | c) transfer |
| 4. pointing | d) bus |
| 5. inkjet | e) material |
| 6. data | f) pointer |
| 7. wireless | g) printer |
| 8. durable | h) card |
| 9. decimal | i) Internet |
| 10. mouse | j) data |

13. Insert the correct word from the Active Vocabulary.

1. This software may not be _____ with older operating systems. 2. There were a few pages of computer _____ on her desk. 3. _____ your favourite songs or your important files onto CDs. 4. The main advantage of _____ monitors is that they take up less desk space and are lighter. 5. The use of computers will _____ the firm's ability to keep accurate records. 6. When you _____ a computer, you simply turn it on. 7. There is a _____ bus service into town. 8. The two concepts are quite _____ from each other. 9. A _____ monitor works by moving an electron beam back and forth across the back of the screen. 10. For general printing, _____ printers have largely been replaced by cheaper, quieter, and faster non-impact printers which produce output of far better quality.

14. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Peripheral *n adj*, term *n*, optional *adj*, principle *n*, logically *adv*, card *n*, cable *n*, graphics *n*, generate *v*, image *n*, signal *n*, presentation *n*, communicate *v*, interface *n*, standardize *v*, dominate *v*, popular *adj*, oppose *v*, microphone *n*, scanner *n*, absolute *adj*, printer *n*, monitor *n*, port *n*, technique *n*, laser *n adj*, minute *n*.

15. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Computer components, a point-to-point connection, music composition, real-time data transfer, fingerprint readers, a business letter, a graphics mode, a colour printer, an office environment, a non-impact printer, photocopy paper, high quality line drawings, a plotter market, printed circuit boards, assembly drawings, a computer monitor, a visual display unit, a mouse cursor, a television screen, intense high energy electrons, a scroll bar, a cathode ray tube, an electron gun, a clear picture quality.

16. Study the ways some nouns are formed from adjectives and other nouns. Form the nouns. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-ian** (the suffix is used for a person skilled in or studying the stated subject):

Example: technical – технический → technician – техник
history – история → historian – историк

Electric, mathematics, optical, political, magic, music, technical, guard, beauty, comedy, theology.

b) **-ist** (the suffix is used for a person who studies, produces, plays, or operates):

Example: economy – экономика → economist – экономист

Science, physics, tour, novel, education, type, active, expression, extreme, ideal, industrial, modern, sociology.

c) **-ness** (the suffix is used for a condition, quality):

Example: happy – счастливый → happiness – счастье

Ready, effective, attractive, aware, kind, friendly, weak, careless, foolish, ill, lovely, open, sad.

d) **-cy** (the suffix is used for a state or quality):

Example: accurate – точный → accuracy – точность

Deficient, efficient, dependent, frequent, consultant, president, agent, accurate, consistent, fluent, private.

17. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

A qualified programmer, a successful politician, a laboratory technician, to have an appointment at the optician's, a good cartoonist, a skilled economist, a team of scientists, an ancient site discovered by archaeologists, an awareness of how the Internet can be used, the emp-

tiness of streets, to show kindness, computer business, the right to privacy, the efficiency of the software, the frequency of computer errors, the consistency in the exam results, computer literacy.

SECTION 3 READING AND DISCUSSION

18. Before you read Text 4A “Peripheral Devices”, discuss the following questions with your classmates or teacher.

1. What peripheral devices do you know?
2. How do peripherals differ?
3. What connections does a computer bus use?
4. What types of expansion cards do you know?
5. What functions do they offer?
6. Why is USB considered to be the dominating bus for connecting external devices?
7. Why have flash drives become very popular forms of removable storage?
8. What is the most popular form of non-removable storage?
9. What input and output devices do you know?
10. What are they used for?

19. Read the text to find out if your answers are right or wrong.

TEXT 4A

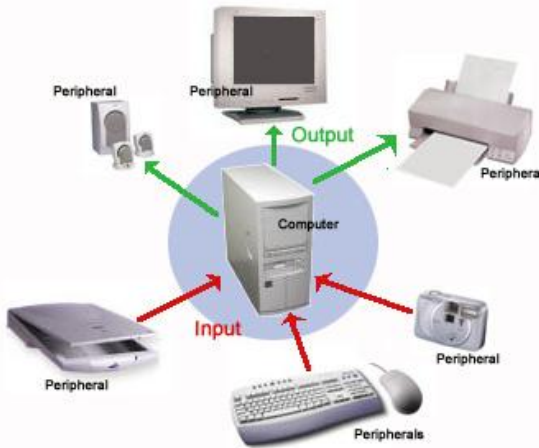
PERIPHERAL DEVICES

A peripheral is a piece of computer hardware that is added to a computer in order to expand its abilities. The term *peripheral* is used to describe those devices that are optional in nature, as opposed to hardware that is either demanded or always required in principle. There are different kinds of peripherals. The main distinction among peripherals is the way they are connected to your computer. They can be connected internally or externally.

A bus is a subsystem that transfers data between computer components inside a computer or between computers. Unlike a point-to-

point connection, a bus can logically connect several peripherals over the same set of wires. Each bus defines its set of connectors to physically plug devices, cards or cables together. There are two types of buses: internal and external. There are different kinds of slots that internal and external devices can connect to.

Types of Cards. A video card (also known as graphics card) is an expansion card whose function is to generate and output images to a display. Some video cards offer added functions, such as video capture, ability to connect multiple monitors, and others. A sound card is



an expansion card that facilitates the input and output of audio signals to/from a computer under control of computer programs. Typical uses for sound cards include providing the audio component for multimedia applications such as music composition, editing video or audio, presentation/education, and entertainment.

A network card is an expansion card that allows computers to communicate over a computer network. It allows users to connect to each other by using cables or wirelessly.

Types of Connections. USB (Universal Serial Bus) is a serial bus standard to interface devices. It was designed to allow many peripherals to be connected using a single standardized interface socket and to improve the plug-and-play capabilities by allowing devices to be connected and disconnected without rebooting the computer. USB is by far the dominating bus for connecting external devices to your computer. Firewire is a serial bus interface standard for high-speed communications and isochronous real-time data transfer, frequently used in a personal computer. The PS/2 connector is used for connecting some keyboards and mice to a PC compatible computer system.

Removable Storage. The same kinds of CD and DVD drives that could come built-in on your computer can also be attached externally. You might only have a CD-ROM drive built-in to your computer but you need a CD writer to burn CDs. You can buy an external CD writer that is connected to your USB port and acts the same way as if it was built-in to your computer. Flash drives have become very popular forms of removable storage especially as the price of flash drives decreases and the possible size for them increases. Flash drives are usually USB ones either in the form USB sticks or very small, portable devices. USB flash drives are small, fast, removable, rewritable, and long-lasting. Storage capacities range from 64MB to 32GB or more. A flash drive does not have any mechanically driven parts so as opposed to a hard drive which makes it more durable and smaller.

Non-removable storage can be a hard drive that is connected externally. External hard drives have become very popular for backups, shared drives among many computers. They come in many shapes and sizes like flash drives do. An external hard drive is usually connected by USB but you can also have a networked hard drive which is connected to your network, allowing all computers on that network to access that hard drive.

Input devices are crucial to computers. The most common input devices are mice and keyboards which barely every computer has. A new popular pointing device that may eventually replace the mouse is a touchscreen which you can get on some tablet notebooks. Other popular input devices include microphones, webcams, and fingerprint readers which can also be built-in to modern laptops and desktops. A scanner is another input device that might be built-in to your printer.

There are lots of different kinds of output devices that you can get for your computer. The absolute most common external output device is a monitor. Based on the technology used to make computer monitors, they can be categorized into three types: CRT (Cathode Ray Tube), LCD (Liquid Crystal Display) and LED (Light-Emitting Diodes) monitors. Other very popular output devices are printers and speakers. There are lots of different kinds of printers and different sizes of speakers for your computer. Monitors are connected through the HD-15 connector on your video card. Printers are connected through a USB port. Speakers have their own audio out port built-in to the sound

card [W. Brady, J. Elkner. *Introduction to Information and Communication Technology*].

20. Find in the text the paragraphs saying about input and output devices, translate them into Russian and read them aloud.

21. Find in the text the definitions of the main terms and translate them into Russian:

1. a peripheral;
2. a bus;
3. video, sound and network cards;
4. a universal serial bus;
5. firewire;
6. a PS/2 connector;
7. a flash drive;
8. a hard drive.

22. Complete the following sentences with details from the text.

1. There are two types of buses _____.
2. Typical uses for expansion cards include _____.
3. The types of connections are _____.
4. A CD writer is connected to _____.
5. A hard drive is connected by _____.
6. There are lots of kinds of input and output devices _____.

23. Find in the text some key words and expressions to speak about supply and demand. Retell the text in English.

24. Skim Text 4B “Printers” and try to understand what it is about and what information is known and new to you.

TEXT 4B

PRINTERS

Printers come in all shapes and sizes, and the type of printer chosen will depend on several factors, such as volume of output (for high volumes, a fast, heavy-duty printer is required); quality of print required (business letters and reports to clients, for example, will require a high quality print, probably on special headed stationery); location of the printer (if the printer is going to be situated in a busy office, the noise that it makes is an important consideration); requirement for multiple copies (some printers cannot produce multiple copies); requirements for colour (does the output need to be in colour?).

A dot matrix printer is an impact printer, producing its image by striking the paper through a ribbon. Its print head consists of a number of small pins, varying between 9 and 24 depending on the manufacturer. As the print head moves across the page, one or more pins strike the ribbon and make a dot on the paper. In order to produce “near letter quality” (NLQ) print, a line is printed twice, with the print head being shifted along very slightly in the second printing so that the spaces between the dots are filled in. The disadvantage of this technique is that the document then takes approximately twice as long to print. Many dot matrix printers have a graphics mode that enables them to print pictures and graphs. With appropriate software any typeface can be produced, and using a special 4-colour ribbon (red, yellow, blue and black), colour output for, say, a graphical presentation can be produced. However, the quality of colour is not as good as that produced by other types of colour printer. One of the main drawbacks of a dot matrix printer is its noise; in an office environment it can be an irritating distraction.

Inkjet printers are a popular type of non-impact printer. They are compact and quiet, and offer resolution almost as good as a laser printer. However, they are slow in operation; on average 3 pages per minute are printed, but a complex combination of text and colour can take several minutes for a single sheet. Inkjet printers such as the HP Deskjet fire a droplet of ink at the page by boiling it in a microscopic tube and letting steam eject the droplet. Heating the ink can damage the colour pigments and matching the ink chemistry to the broad range of papers used in the office is a technical challenge. Large areas of colour can get wet, buckle, and the ink may smear. Although ordinary photocopy paper can be used, special smooth-coated paper may produce a more satisfactory result.

Laser printers are becoming increasingly popular. They use a process similar to a photocopying machine, with toner (powdered ink) being transferred to the page and then fused onto it by heat and pressure. A laser printer produces output of high quality at a typical speed of ten pages per minute, and is silent in operation. The main running expenses are the toner. A cartridge lasts for around 5,000 copies,

A plotter is an output device used to produce high quality line drawings such as building plans or electronic circuits. They are classified as pen (vector plotters) or penless (raster plotters). Pen plotters use pens to draw images using point-to-point data, moving the pen over the paper. They are low in price and hold a large share of the plotter market. Penless plotters include electrostatic plotters, thermal plotters and laser plotters. They are used where drawings of high densities are required, for example printed circuit boards. Colour electrostatic plotters are increasingly being used in, for example, assembly drawings of machines and building plans, making them easier to read and understand [*P.M. Heathcote. "A" Level Computing*].

25. Answer the following questions.

1. What does the choice of the type of printer depend on?
2. How does a dot matrix printer work?
3. What modes does it have?
4. What are the drawbacks of dot matrix printers?
5. What are the advantages and disadvantages of an inkjet printer compared with a laser printer?
6. Why are laser printers becoming increasingly popular?
7. What is a plotter used for?
8. How are plotters classified?
9. What are the functions of a plotter?
10. What type of printer do you have? Substantiate your choice.

26. Complete the sentences choosing the best variant corresponding to the contents of Text 4B.

1. A dot matrix printer uses ...
 - a) liquid ink sprayed through nozzles onto the paper.
 - b) a toner cartridge and a heated fuser.

- c) a print head that moves back-and-forth.
- 2. An inkjet printer is a type of ...
 - a) non-impact printer.
 - b) impact printer.
 - c) photocopying machine.
- 3. An inkjet printer offers resolution ...
 - a) as good as a dot matrix printer.
 - b) as good as a plotter.
 - c) as good as a laser printer.
- 4. The main running expenses of a laser printer are ...
 - a) liquid ink.
 - b) powdered ink.
 - c) a ribbon.
- 5. Raster plotters are used where ...
 - a) high quality line drawings are required.
 - b) drawings of building plans are required.
 - c) drawings of high densities are required.

27. Identify the topic of each paragraph of the text and retell it in English.

SECTION 4 SPEAKING

28. Practise the following illustrative dialogues.

Dialogue 1 **A Computer Problem**

Helen: Hi, Mark.

Mark: Hi, Helen. How are you?

Helen: Fine, thanks. I need your help, Mark.

Mark: What's the problem?

Helen: I have problems with my computer and I know you are very good at solving them.

Mark: What happened?

Helen: Yesterday I was writing my essay for tomorrow's lesson and suddenly my computer crashed and I lost all my work! Do you think it is possible to get it back?

Mark: Did you make a back-up copy of your work?

Helen: I'm afraid I forgot.

Mark: I'm sorry, Helen, but I can't see any way of getting your essay back. Remember you always have to make a back-up copy of your work.

Helen: I know, I know. But I always forget about it. All right, I have to go and write a new essay. This time I won't forget to make an extra copy on disk. See you later!

Mark: Bye!

Dialogue 2 **Failing to Open a File**

Kate: Hi, Nick. Sorry to bother you. I have a question for you.

Nick: OK. What's up?

Kate: I've been having a problem with my computer. I know you're good at computers, so I thought you might be able to help me.

Nick: I see. What's the problem?

Kate: I have a file that I can't open for some reason.

Nick: What type of file is it?

Kate: It's a Word document I've been working on. I need to finish it by tomorrow.

Nick: Were you able to open it before, on the computer you're using now?

Kate: Yes, I was working on it last night and everything was fine, but this morning I couldn't open the file.

Nick: Do you think your computer might have a virus?

Kate: No, I checked and there weren't any.

Nick: OK. I'm not sure what's wrong. If it's possible, email the file to me and I'll see if I manage to open it.

Kate: OK. I'll do that when I get home. What time are coming home tonight?

Nick: I'll be at home after 8 p.m. Send it to me when you get a chance and I'll call you later.

29. Finish the following dialogue and practise it.

Dialogue 3 **My Computer's Gone Wrong!**

John: Good afternoon, Computer Helpline, John speaking. How can I help you?

Phil: Oh, at last! Hello, John, I've got a real problem with my computer. It isn't working at all!

John: OK, OK. Tell me your name and your company name and describe what's happened.

Phil: My name's Phil Evans. I don't work for a company, I'm self-employed. I work at home, and I'm trying to meet an important deadline at the moment. This morning I was working away happily, when suddenly everything stopped and a message came up on the screen. Then the screen went blank.

John: OK Phil, don't worry! What did the message say?

Phil: I can't remember exactly, because I didn't understand it, but I think it said something about "not enough memory".

John: It's OK, Phil. I think I know what the problem is. Tell me, Phil, have you switched the computer off?

Phil: No, I haven't. It's still on.

John: Fine, Phil. Now do exactly what I say. Go to your computer, OK? Can you see a "W" in the top right-hand corner? Click on that "W" with the mouse. What does it say? Can you read it to me?

Phil: There's a list of three things. First it says ...

30. Answer the following conversation questions about using a computer.

1. Do you often have problems with your computer?
2. What do you do when your computer doesn't work properly?
3. How do you sort out the following computer problems?
 - a) The computer is running slowly.
 - b) The computer doesn't turn off.
 - c) Windows programs stop responding.
 - d) Windows restarts without warning.
 - e) Some documents have been lost.

f) The screen keeps freezing.

31. Make up dialogues of your own using the illustrative dialogues as models and the above conversation questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

32. Listen to the Text “A Computer Keyboard”. As you listen, make notes under the following headings.

1. A computer keyboard is one of the primary input devices.
2. A keyboard layout.
3. A laptop keyboard.
4. A desktop keyboard.
5. A thumb keyboard.

33. Check your answers with your classmates and Tapescript 4A. Look up the words you do not know in your dictionary.

34. Retell the text about a computer keyboard.

35. Listen to the Text “A Computer Mouse”. Which of the statements are true and which are false?

1. A computer mouse was invented in 1973 in California.
2. A mouse allows a user to manipulate on-screen objects.

3. A user doesn't have to double-click a file to view its contents.
4. The first application of a mouse was with the Alto computer.
5. A mouse is found on every computer.
6. There are different types of computer mice.
7. The only use of a mouse is to move its cursor on the screen.
8. To view a web page you need to scroll down on that page.

36. Check your answers with your classmates and Tapescript 4B. Look up the words you do not know in your dictionary.

37. Retell the text about a computer mouse.

SECTION 6 WRITING

A *CV* (curriculum vitae [kə'rikjələm'vi:tai]) or *a résumé* ([ˈrezjumei] *AmE*) is a summary of your personal details, work experience and educational qualifications. The aim is to give an employer an informative and positive view of you as a potential employee. It is usually sent when applying for a job or a study programme.

38. Study the parts and some features of the following CV. Read and translate it.

NAME	Michael Danford
ADDRESS	54 Dryfield Road Oxford CB4 5DS UK
TELEPHONE NUMBER	01254 2386254
E-MAIL ADDRESS	mdanford@mail.uk
DATE OF BIRTH	22 March 1989
EDUCATION	
2005 – 2009	Oxford College of Information Technology Richmond Street Oxford BC 9 8YB
2000 – 2005	Watford Comprehensive School Leeds CB3
QUALIFICATIONS	
2009	Bachelor of Information Technology (Software Development)

2008	Certificate of French Language Centre, University of London (General Course)
2005	General Certificate of Secondary Education: Mathematics, General Science, Economics, English, French, and History
WORK EXPERIENCE	
October 2009 to present	Software developer at V&K Company, Oxford
January 2006 – May 2008	Temporary job as a computer support specialist at Travel Co., Oxford
March 2006 – April 2008	Saturday and holiday job as an assistant to a data administrator at DMI, Oxford
OTHER INFORMATION	English – native, French – fluent; driving licence
INTERESTS	developing CAD programs, member of the town football team, photography, and playing the piano
REFEREE	Dr. Smith Head of the Department of Computer Science Oxford College of Information Technology Richmond Street Oxford BC 9 8YB

39. How is a CV different in Russia?

40. Write your own CV in English using qualifications you already have, or ones that you think you might get in the future. Use Michael Danford's CV as a guide for your writing.

41. Find some advertisements for jobs or study abroad programmes. Look in newspapers or on the Internet. Choose one and write a CV based on the information provided.

UNIT 5

SYSTEM SOFTWARE



Section 1. Grammar Practice:

Present, Present, Past and Future Perfect (Active and Passive Voice).

Present, Past and Future Perfect Continuous.

Section 2. Vocabulary and Word Study:

Suffixes: *-ship*; *-ful*; *-less*; *-ic*.

Section 3. Reading and Discussion:

Text 5A. Types of System Software.

Text 5B. Operating Systems.

Section 4. Speaking:

Software (1).

Section 5. Listening:

5A. Graphical User Interfaces.

5B. Linux.

Section 6. Writing:

Registration for an English Language School.

SECTION 1 GRAMMAR PRACTICE

1. Study the forms and use of the Present, Past and Future Perfect Tense (Active and Passive Voice) in Grammar Reference 5.1 – 5.2. Compare the following pairs of the sentences. Translate them.

1. He *updated* his antivirus software yesterday. He *has just up-dated* his antivirus software. 2. I *know* him well. I *have known* him since my childhood. 3. They *were installing* Word when I came into the classroom. They *had already installed* Word when I came into the classroom. 4. We *will supply* computer hardware to this company. We *will have supplied* computer hardware to this company by the time

they pay for it. 5. I *was offered* a new job yesterday. I *have been offered* a new job recently. 6. He *was being shown* an up-to-date machine when his colleague phoned him. He *had already been shown* an up-to-date machine when his colleague phoned him. 7. We *will run* this computer program in two hours. We *will have run* this computer program for two hours.

2. Write the following sentences in the negative form. Then change them to general, alternative, special (beginning with the question-words given in brackets) and tag questions.

1. They had gone home when I came to the party. (*Where? When? Who?*) 2. He has known them for a long time. (*Who? How long?*) 3. They will have finished dinner by then. (*What? When? Who?*) 4. The game had been cancelled when we got to the stadium. (*When? What?*) 5. He has seen Tom and his friends today. (*Who? When? Whose?*) 6. He had written to Mary three times before she phoned him. (*Who? How many? When?*) 7. A new hospital had been built before I came to this town. (*What? When?*) 8. They have been invited to Nick's party. (*Where? Whose? Who?*) 9. My father's company has made a profit this year. (*What? When? Whose?*)

3. Rewrite the following active sentences as passive ones. Translate the sentences into Russian.

Example: They *have loaded* the program today. –

The program *has been loaded* by them today.

1. My classmate had collected the data from many sources before the teacher told him to do it. 2. My friend has used a computer in his research. 3. The telecom operator had provided some services and data links by that time. 4. They have developed a new kind of chip. 5. This organisation has computerised the area of its business. 6. Tom will have studied these programming languages for two years. 7. They had made the system secure from hackers two weeks later. 8. Over the years, different computer designers have used different sets of codes. 9. They have chosen to do computing rather than information technology. 10. The programmer has defined the data types.

4. Complete the following sentences using a) the Active Perfect or b) the Passive Perfect forms of the verbs in brackets. Translate the sentences.

a) Active:

1. Nobody came to the meeting because Angela _____ (forget) to tell people about it. 2. The builder says he _____ (finish) the roof by next Saturday. 3. The firm _____ (lose) \$30 million this year. 4. Polly and Simon _____ (just/get) married. 5. I _____ (see) her before somewhere. 6. I _____ (not hear) much of Mary lately. 7. The lesson _____ (already start) when I arrived. 8. My girlfriend and I _____ (know) each others for ages. 9. I _____ (do) a lot of stupid things in my life. 10. After he _____ (finish) his report, everybody congratulated him.

b) Passive:

1. This office is very inefficient. No reports _____ (write) for weeks. 2. I think this work _____ (finish) by next week. 3. He found that all his money _____ (steal). 4. _____ (you invite) to Andy's party? 5. The Super Cinema _____ (turn) into a supermarket recently. 6. The station _____ (modernise) when I arrived in my home town. 7. The washing machine was broken but it's OK now. It _____ (repair). 8. I didn't know what to do because no information _____ (give) about that matter. 9. I _____ (lend) a car for a week.

5. Translate the following sentences into Russian paying attention to the predicates used in the Active/Passive Perfect forms.

1. This information has been stored in computer files. 2. Within half a century, computers and information technology have changed the world and affected millions of lives in ways that no one could have foreseen. 3. In this chapter we will look at some of the ways that information and communications technology has changed patterns of work. 4. The text had been edited and the spelling mistakes had been corrected before the final version was printed out. 5. Ever since the industrial revolution, people have feared that machinery will displace workers, and information technology is no exception. 6. There is no evidence that the introduction of computers has led to mass unemployment – in fact, overall more jobs have been created by computers

than have been displaced by them. 7. Once the data has been processed it can be discarded (although backup copies may be kept for a while). 8. The document had been saved on disk before I asked my colleague to do it. 9. He had taken some steps to minimise the risk of suffering damage from viruses by his time. 10. Computers have taken over many of the tedious tasks that humans once performed.

6. Study the forms and use of the Present, Past and Future Perfect Continuous Tense in Grammar Reference 5.3. Read and translate the following sentences, make them negative and interrogative.

1. She had been studying information technology for two years. 2. It has been raining for an hour. 3. At the time the factory closed down, Sarah had been working there for five years. 4. He has been developing these ideas for a long time. 5. The printer has been operating for an hour. 6. I had been walking along the road for about ten minutes when a car suddenly stopped just behind me. 7. Mary has been working in London since 18 January. 8. Anne has been looking for a job for six months. 9. Next year I will have been working for the company for 30 years. 10. We had been playing for half an hour when it started to rain.

7. Read and translate the following sentences. Mind the use of the Perfect Continuous.

1. We have been looking at Fax machines and have decided on one that can be linked to the PC to give us a high-quality computer printer, copier and scanner all in one, as well as a phone, answering machine and storage of the 50 numbers we use most often. 2. The production of these goods has been growing rapidly over several decades. 3. I had been working at the factory for two years when my brother arrived. 4. They have not been producing any information for few days. 5. When Mr Johnson retires next week, he will have been working for our company for 25 years. 6. We have been developing this product for three years. 7. For a very long time my company has been exporting these goods abroad. 8. They will have been discussing a new computer program since the beginning of the conference tomorrow. 9. She had been translating an English text for an hour when I

brought a dictionary. 10. In most areas the technology had been falling behind that of Britain's main competitors for two years by that time.

8. Put the verb into the most suitable form: the Present/Past Perfect or the Present/Past Perfect Continuous.

1. I _____ (read) the book you lent me, so you can have it back now. 2. Tom's father _____ (do) the same job for 20 years. 3. We were good friends. We _____ (know) each other for a long time. 4. Please, hurry up! We _____ (wait) for an hour. 5. Kevin _____ (look for) a good job in London since he left school. 6. I _____ (lose) my English textbook. _____ (you/see) it anywhere? 7. We were extremely tired at the end of the journey. We _____ (travel) for more than 24 hours. 8. Somebody _____ (smoke) all my cigarettes. The packet is empty. 9. Jake _____ (run) a small business since last year. 10. When we arrived at the cinema, the film _____ (already/begin).

SECTION 2 VOCABULARY AND WORD STUDY

9. Read and memorize the active vocabulary to the texts of Unit 5 and translate the given sentences.

1. **account** [ə'kaunt] *n* – аккаунт, учетная запись; отчет, доклад, описание, рассказ; счет

account for (smth) *v* – составлять; объяснять (что-л.); отчитываться (в чем-л.), отвечать (за что-л.)

take into account – принимать во внимание, учитывать

An e-mail *account* acts as a virtual address for e-mail messages. She received a glowing *account* of her son's progress. I don't have a bank *account*. Exports *account for* 42% of sales. Coursework *is taken into account* as well as exam results.

2. **compress** [kəm'pres] *v* – сжимать; уплотнять

compression [kəm'preʃ(ə)n] *v* – сжатие; уплотнение

data compression – сжатие (уплотнение) данных

I managed *to compress* ten pages of notes into four paragraphs. Advances in *compression* technology mean that you can now send even quite large files by e-mail.

3. **customize** ['kʌstəmaɪz] *v* – настраивать; подстраивать; переделывать, подгонять (под индивидуального заказчика)

You can *customize* the software in several ways. Our language courses *are customized* to each student.

4. **detect** [di'tekt] *v* – обнаруживать, выявлять

In the future, cars equipped with on-board computers will be able *to detect* and avoid traffic jams automatically.

5. **environment** [in'vai(ə)rənmənt] *n* – окружение, обстановка, среда, атмосфера; окружающая среда

desktop environment – среда настольной системы, среда рабочего стола

The tests were carried out in a controlled *environment*. Manufacturing companies are becoming more aware of how toxic waste can damage *the environment*. If you have a graphical *desktop environment* installed, you can also use its web browser.

6. **eliminate** [i'limineɪt] *v* – устранять, исключать

elimination [i,limi'nei](ə)n] *v* – устранение, исключение

The programme will minimize, though *not eliminate*, the problem. Credit cards *eliminate* the need to carry a lot of cash.

7. **ensure** [in'ʃuə] *v* – обеспечивать, гарантировать

The airline is taking steps *to ensure* safety on its aircraft.

8. **execute** ['eksɪkjʊ:t] *v* – исполнять, выполнять

Check that the computer *has executed* your commands.

9. **feature** ['fi:tʃə] *n v* – особенность, признак, свойство, характерная черта; показывать

The software has no particular distinguishing *features*. The latest model *features* alloy wheels and an electronic alarm.

10. **the former** ['fɔ:mə] *adj* – первый (из двух названных)

the latter ['lætə] *adj* – последний (из двух названных)

We visited America and Australia, staying longer in *the former* than in *the latter*.

11. **recognize** ['rekəɡnaɪz] *v* – распознавать, опознавать, различать

recognition [,rekəɡ'niʃn] *n* – распознавание, опознавание; различение

Do you *recognize* this tune? The monitoring system allows *recognition* of pollution hot spots.

12. **responsible** [ri'spɒnsəb(ə)l] *adj* – ответственный, несущий ответственность

be responsible for – быть ответственным за что-л.

responsibility [ri'spɒnsə'biliti] *n* – ответственность; обязанность, обязательство

The organization needs to become more environmentally *responsible*. Mike *is responsible for* designing the entire project. It is your *responsibility* to make sure that your homework is done on time.

13. **run** [rʌn] (**ran**; **run**) *v* – выполнять, прогонять (программу); пользоваться (компьютерной программой); работать (о механизме); эксплуатировать (оборудование), приводить в действие, пускать в ход; руководить, управлять

We *have run* the computer program, but nothing happens. Did you *run* a virus check this morning? The engine *is running* more smoothly now. He has no idea how *to run* a business.

14. **save** ['seiv] *v* – сохранять (файлы, работу и т.д. в компьютере); экономить; сберегать, копить

It's a good idea *to save* frequently. She *is saving* her money to buy a bicycle.

15. **screensaver** *мж.* **screen saver** ['skri:n,seivə] *n* – скринсейвер, экранная заставка

He changed the boring standard *screensaver*.

16. **separate** ['sep(ə)rit] *adj* – отдельный; ['sepəreit] *v* – отделять, разделять

The art department and the music department are in two *separate* buildings. I *separated* the class into three groups.

17. **tend** *v* – иметь тенденцию, стремиться

When am tired, I *tend* to make mistakes.

18. **track** [træk] *n* – дорожка; канал

keep track – отслеживать; следить

When a piece of music is recorded, each instrument is recorded separately on a 24- or 48-*track* tape. This system of file management helps you *to keep track* of everything you need to do.

19. **use** [ju:s] *n* – использование, назначение, применение, польза; [ju:z] *v* – пользоваться, использовать, применять

be in use – быть в употреблении, использоваться

make use of – воспользоваться, использовать

user ['ju:zə] *n* – пользователь

end user – конечный пользователь

usage ['ju:sɪdʒ] *n* – применение, использование; использование

The use of cameras in this museum is strictly forbidden. The teacher demonstrated how to use the equipment. Don't touch the machine when it is in use. We could make better use of our resources. The software can be modified to suit the particular needs of the end user. Sports equipment is designed to withstand hard usage.

20. **utility** [ju'tɪləti] *n* – (служебная) обслуживающая программа, утилита; полезность, эффективность

Operating systems contain a number of *utilities* for managing disk drives, printers, and other devices. This computer is of low *utility* for the home user.

10. Match the pairs of synonyms from A and B. Translate them.

A

1. identification
2. detached
3. compaction
4. characteristic
5. medium
6. application
7. removal
8. duty
9. first-mentioned
10. second-mentioned

B

- a) feature
- b) elimination
- c) recognition
- d) use
- e) responsibility
- f) compression
- g) former
- h) latter
- i) separate
- j) environment

11. Match the verb on the left with a suitable item on the right. Use each item once only.

1. run
2. customize
3. make
4. ensure
5. keep
6. take

- a) safety
- b) a program
- c) track
- d) for the majority
- e) software
- f) a command

- | | |
|--------------|-----------------------|
| 7. save | g) a file |
| 8. eliminate | h) a computer program |
| 9. account | i) into account |
| 10. execute | j) use |

12. Make the following sentences complete by translating the words and phrases in brackets.

1. Paul is directly (ответственный) for the efficient running of the office. 2. А (экранная заставка) is a computer program that replaces a screen display on a computer with another, moving, display after a particular length of time, to stop the screen from being damaged 3. We (иметь тенденцию) to take technology for granted nowadays. 4. The tests have proved the (полезность) of this material. 5. (Пользователи) of the network will greatly benefit from these improvements. 6. (Сжатие данных) is particularly useful in communications because it enables devices to transmit or store the same amount of data in fewer bits. 7. This is an instrument that can (обнаруживать) very small amounts of radiation. 8. Where did you (сохранять) the file you were working on? 9. The company's sole concern is to (обеспечивать) the safety of its employees. 10. Students (составлять) the vast majority of our customers.

13. Read and translate the following groups of sentences paying attention to the words in italics which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

- a) His books typically *feature* adventures.

b) They will publish a special *feature* on computer books.

c) He starred in his first *feature* film a year ago.
- a) The *former* option would be much more sensible.

b) He abandoned his *former* career as a programmer.

c) Of the two suggestions, I prefer the *former*.
- a) How do I open an *account* with your bank?

b) Do you have an e-mail *account*?

c) Electronic goods *account* for over 30% of our exports.

- d) He gave a clear *account* of events.
- e) She can't work much on *account* of the children.
- f) If you take inflation into *account*, we spend less now.
- 4. a) They had to drive up a dirt *track*.
- b) His books *track* the development of modern English.
- c) He played me a *track* from their new album.
- d) Yesterday I had *track* practice.
- e) She decided to change her career *track*.
- 5. a) The colleges *run* summer courses for foreign students.
- b) She used to *run* when she was at college.
- c) Let's go for a *run* before dinner.
- d) Buses to Oxford *run* every half hour.
- e) The software will *run* on any PC.

14. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Model *n*, function *n*, file *n*, management *n*, indicator *n*, interpret *v*, driver *n*, instruction *n*, specific *adj*, server *n*, utility *n*, train *v*, virus *n*, sort *v*, correct *adj*, scan *v*, upgrade *v*, version *n*, line *n*, modify *v*, basic *adj*, directory *n*, distribution *n*, menu *n*, mobile *adj*, calendar *n*, group *n*, triumph *n* *v*, platform *n*, action *n*.

15. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Computer memory, a desktop environment, file management, information management, output operations, a device driver, a print server, an enterprise server, a computer operator, a display screen, Windows users, a mobile device, server versions, a dialog box, a desktop icon, an e-mail client, Microsoft Windows applications, personal computer usage, system-store applications, online security updates, computer threats, vastly improved desktop features, wireless and finger browsing compatibilities, a touchscreen device, source codes.

16. Study the ways some nouns are formed from other nouns and some adjectives are formed from nouns. Form the nouns and adjectives. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-ship** (the suffix is used for a status, condition, or skill):

Example: citizen – гражданин → citizenship – гражданство

Leader, student, friend, relation, member, partner, proprietor, space, owner, student, companion.

b) **-ful** (the suffix means *full of or having the quality of the noun*):

Example: success – успех → successful – успешный

Care, power, duty, use, harm, beauty, delight, force, grace, help, joy, peace, thank, youth, pain, cheer.

c) **-less** (the suffix means *without*):

Example: use – польза → useless – бесполезный

Effort, help, meaning, motion, hope, harm, air, brain, end, heart, humour, life, name, speech, thought.

d) **-ic** (the suffix means *like, or connected with*):

Example: atom – атом → atomic – атомный

Base, cube, economy, acid, linguistics, magnet, symbol, bureaucrat, patriot, diplomat, hero, photograph, poet, rhythm, electronics, optimist.

17. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

A growth in home ownership, the chairmanship of the committee, to be offered a professorship in information technology, to apply for membership, to establish a good working relationship, friendships formed while she was at university, beautiful music, a delightful book,

a rather shameful practice, an eventful day, a hotel with a restful atmosphere, a useful gadget, tuneless singing, a childless marriage, an endless list of things to do, on countless occasions, to have tireless energy, harmless fun, an alcoholic drink, magnetic materials, music with a fast, rhythmic beat, to take a more optimistic view, economic and political issues, journalistic skills.

SECTION 3 READING AND DISCUSSION

18. Before you read Text 5A “Types of System Software”, discuss the following questions with your classmates or teacher.

1. Is it possible to use of a computer without system software?
2. What are the functions of system software?
3. What kinds of system software programs do you know?
4. What do the functions of the operating system include?
5. What do operating systems usually come with?
6. What types of servers do you know?
7. What do the examples of utilities include?
8. What does the Window system support?

19. Read the text to find out if your answers are right or wrong.

TEXT 5A

TYPES OF SYSTEM SOFTWARE

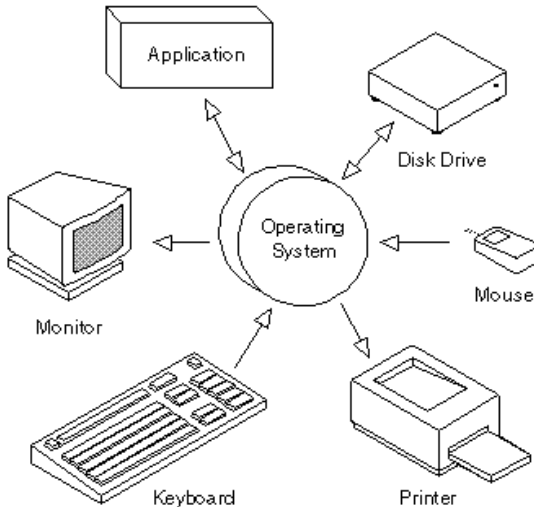
System software is a kind of computer program that is designed to run a computer’s hardware and application programs. If we think of the computer system as a layered model, the system software is the interface between the hardware and user applications.

Without system software, it is extremely difficult to make use of the computer. One of the basic functions of the system software is to save information from the computer memory to an external device and to recognize text from external devices, such as the keyboard, onto the monitor. Another example of system software is the programs used to

manage a computer, such as installing or removing software and the programs that create the desktop environment.

There are different kinds of system software programs that make the computer a fascinating and complex device.

The operating system is the most important program of the computer. It helps both the hardware and software components of the computer to perform their functions. The functions of the operating



system include file management, provision of indicators for information management, controlling the computer memory, interpreting input from the external devices and executing output operations.

The device drivers are installed to make external hardware,

such as the printer and mouse, to perform their tasks. What a device driver does is to change the general instructions of the already installed operating system software to more specific ones that will be understood by the external devices. Operating systems usually come with device drivers for external computer hardware but if the hardware to be added is not recognized on the operating system, then a new device driver must be installed before it can be used. Device drivers are downloadable and easy to install.

A server is the computer software installed on a dedicated computer to connect other computers or electronic devices so that their performance can be easily controlled. Servers are used to provide information to computer users outside the organization through the Internet. Some of the types of servers are web servers, print servers, database servers and enterprise servers.

Utilities are computer software used to get the best of the computer. Utilities are operated by trained professionals because of the high level of skills required. Some examples of utilities are disk storage utilities, disk defragmenters, disk checkers, disk cleaners, hex editors, anti-virus, data compression, system profiler and screensavers. Disk defragmenters are used to identify files that are stored in the computer hard disk and increase the efficiency of the computer files by sorting and separating the correct ones from the incorrect/broken files. System profilers are used to find details about any installed software or attached hardware on the computer. Hex editors are tools used to modify files while the anti-virus is used to scan computers to detect the presence of virus in order to eliminate them.

The Window system is software that makes it possible for computer users to make use of symbols and pointing devices. Thus, it supports the installation of graphics hardware. With the Window system, it is also possible for the computer operator to work with more than one program at the same time. The examples of Window systems include Sun View, Xfast, Xynth, Qtopia, MicroXwin, Wayland, GM, OPIE, X Window system, Y Window system and MicroWindows [*Computer System Software – Best Collection of Resources*].

20. Read the paragraph describing the utilities, translate it into Russian and read it aloud.

21. Find in the text the definitions of the main terms and translate them into Russian:

1. system software;
2. the operating system;
3. a device driver;
4. a server;
5. a utility;
6. the Window system.

22. Complete the following sentences with details from the text.

1. The system software is the interface between _____.
2. Another example of system software is _____.

3. The operating system is _____.
4. Device drivers are downloadable and _____.
5. Servers are used to provide _____.
6. The examples of Window systems include _____.

23. Underline or mark the main ideas of the text and retell it in English.

24. Skim Text 5B “Operating Systems” and try to understand what it is about and what information is known and new to you.

TEXT 5B

OPERATING SYSTEMS

The operating system (OS) is the most important program that runs on a computer. Every general-purpose computer must have an operating system to run other programs and applications. Computer operating systems perform basic tasks, such as recognizing input from the keyboard, sending output to the display screen, keeping track of files and directories on the disk, and controlling peripheral devices such as printers. For large systems, the operating system has even greater responsibilities and powers. It makes sure that different programs and users running at the same time do not interfere with each other. The operating system is also responsible for security, ensuring that unauthorized users do not access the system.

Most people use the operating system that comes with their computer, and it is possible to upgrade or even change operating systems. Modern operating systems are designed to be easy to use, and most of the basic principles are the same. The three most common operating systems for personal computers are Microsoft Windows, Mac OS X, and Linux.

Microsoft created the Windows operating system in the mid-1980s. Over the years, there have been many different versions of Windows, but the most recent ones are Windows 10 (released in 2015), Windows 8 (2012), Windows 7 (2009), and Windows Vista (2007). Windows comes pre-loaded on most new PCs, which helps to

make it the most popular operating system in the world. Mac OS is a line of operating systems created by Apple. It comes preloaded on all new Macintosh computers, or Macs. All of the recent versions are known as OS X (pronounced *o-s ten*), and the specific versions include El Capitan (released in 2015), Yosemite (2014), Mavericks (2013), Mountain Lion (2012), and Lion (2011).

Mac OS X users account for less than 10% of global operating systems – much lower than the percentage of Windows users (more than 80%). One reason for this is that Apple computers tend to be more expensive. However, many people do prefer the look and feel of Mac OS X to Windows.

Linux (pronounced *lin-ux*) is a family of open-source operating systems, which means they can be modified and distributed by anyone around the world. This is different from proprietary software like Windows, which can only be modified by the company that owns it. The advantages of Linux are that it is free, and there are many different distributions or versions you can choose from. Linux users account for less than 2% of global operating systems. However, most servers run Linux because it is relatively easy to customize.

Modern operating systems use a graphical user interface, or GUI (pronounced *gooy*). A GUI lets you use your mouse to click icons, buttons, and menus, and everything is clearly displayed on the screen using a combination of graphics and text. Each operating system's GUI has a different look and feel, so if you switch to a different operating system it may seem unfamiliar at first.

The above operating systems were designed to run on desktop and laptop computers. Mobile devices such as phones, tablet computers, and MP3 players are different from desktop and laptop computers, so they run operating systems that are designed specifically for mobile devices. The examples of mobile operating systems include Apple iOS and Google Android. Operating systems for mobile devices are not as fully featured as those made for desktop and laptop computers, and they are not able to run all of the same software. However, you can still do a lot of things with them, like watch movies, browse the Web, manage your calendar, and play games [*Computer Basics*].

25. Ask your classmates:

a) what the operating system is; b) what tasks operating systems perform; c) what the most common operating systems are; d) why Windows is considered to be the most popular operating system; e) why computer users prefer Windows to Mac OS; f) what the advantages of Linux are; g) what the functions of a graphical user interface are; h) what operating systems mobile devices run.

26. Complete the sentences choosing the best variant corresponding to the contents of Text 3B.

1. An operating system runs ...
 - a) external hardware.
 - b) disk storage utilities.
 - c) programs and applications.
2. Most of the basic principles of operating systems are ...
 - a) are different.
 - b) are the same.
 - c) depend on their type.
3. The Windows operating system was created by ...
 - a) Apple.
 - b) Apple and Microsoft.
 - c) Microsoft.
4. Computer users prefer the look of ...
 - a) Mac OS X to Windows.
 - b) Windows to Mac OS X.
 - c) Mac OS X and Windows.
5. Linux can only be modified by ...
 - a) the company that owns it.
 - b) anyone.
 - c) distributors.
6. GUI of each operating system's has ...
 - a) a familiar look.
 - b) the same look.
 - c) a different look.
7. Mobile devices ...
 - a) can't run the same software.
 - b) can run the same software.
 - c) must run the same software.

27. Identify the topic of each paragraph of the text and retell it in English.

SECTION 4 SPEAKING

28. Practise the following illustrative dialogues.

Dialogue 1

Shop assistant: Which computer do you want?

Mike: I want an IBM. Will I be able to use MAC and NEC software on it?

Shop assistant: Most big software packages are multi-platform. You won't be able to use MAC and NEC formatted floppies.

Mike: That's okay. I'll take this one.

Dialogue 2

John: Windows XP is easy to use.

Pete: Yes, and it's a lot of fun too.

John: Can you show me how to find programs and files?

Pete: Sure. To find files use the Explorer program. Let me show you.

John: Hey, that is easy!

Dialogue 3

Kate: I don't understand the difference between GUI and CUI.

Anne: GUI (pronounced *gooey*) means Graphical User Interface and CUI is Common User Interface.

Kate: So, how are they different?

Anne: When programs first started using graphical interfaces you had to learn a different way of using each program. The way you opened files, printed them and saved them was different for each program.

Kate: I see. CUI means that all the programs look and operate the same. Once you know how to cut and paste it's the same in all programs.

Dialogue 4

A.: Don't we need tax software to do this work?

B.: Yeah. Don't you have it installed on your computer?

A.: No, they said they would install it for me, but they didn't do it yet.

B.: Go and ask your manager. He probably forgot.

A.: That's a good idea. Is there an instructional manual for this software?

B.: It's in the second file cabinet under Software Applications.

A.: Thanks. I'll probably need it when I get the software.

B.: Actually, it's not that difficult to use. I think you should be able to figure it out without the manual. The manual is only good for advanced options that we don't really need.

A.: You're probably right. Many of the manuals I've read were not that helpful. Do you mind if I come to you for questions when I am using the software?

B.: Not at all. Feel free to ask any questions. If I know the answer, I'll let you know.

A.: Great. I'll go and find the manager to get the software installed on my computer.

29. Using the above dialogues as a model and the information given in the texts of the Unit, make up dialogues and act them.

Situations: You meet your friend and talk about:

- a) the software you use most often;
- b) the software installation;
- c) different versions of software.

SECTION 5 LISTENING

30. Listen to the Text "Graphical User Interfaces". As you listen, make notes under the following headings.

1. Some specific features of graphical user interfaces.

2. The uses of GUIs.
3. The WIMP interface.
4. Touchscreen devices.

31. Check your answers with your classmates and Tapescript 5A. Look up the words you do not know in your dictionary.

32. Retell the text about graphical user interfaces.

33. Listen to the Text “Linux” and say which of these statements are true and which are false?

1. Linux was first announced on July 26, 1997.
2. Developers have access to a limited number of source codes.
3. Linux is used by many users worldwide.
4. Linux components can be downloaded free of charge from the Internet.
5. Different distributions of Linux include a wide range of applications that significantly complicate its installation.

34. Check your answers with your classmates and Tapescript 5B. Look up the words you do not know in your dictionary.

35. Retell the text about Linux.

36. Share your experience of using Linux.

SECTION 6 WRITING

37. Read and translate the advertisement of Central School in London.

Central School of English

Central School of English was founded in 1970 and is superbly located in the centre of London. It is one of London's favourite learning centres. We are proud of our reputation for high academic standards in an atmosphere that is creative and productive. Our teaching method focuses on individual achievement and our motivated team, teachers and administration, are highly goal oriented in terms of student accomplishment.

Our Courses

We have a wide range of quality English courses to suit your needs. Students benefit from a curriculum developed from our experience and intensive tuition combining small class sizes and dynamic teaching, leading to fast progression and development of the language. Courses run every week throughout the year from Monday to Friday. The school is usually closed on Christmas Day and New Year's Day. The school is normally open on other national holidays

What course is for me?

We offer :

- ▶ Everyday English
- ▶ English for Business
- ▶ Examination preparation (IELTS and Cambridge)
- ▶ English for Specific Purposes
- ▶ Courses to help you prepare for further and higher education
- ▶ Summer Courses

Please contact our Enrolments team if you have any questions, the contact details are:

Tel.: +44 20 8748 6665

Fax: +44 20 8748 6773

School of English, London

4a King Street

London W6 0QA

UK

38. Imagine that you are willing to take an English Language course at *Central School of English*. Fill in the registration form.

A Registration Form

PERSONAL DETAILS

First Name _____

Family Name _____

Address _____

Country _____

E-mail _____

Tel. no. _____ Fax no. _____ Date of Birth _____ Occupation _____ Male/Female _____ How did you hear about us? _____ (a friend, British Council, Internet search, advertisement) If other, please specify: _____ ACCOMMODATION Number of weeks _____ Do you smoke? (Yes/No) _____ PROGRAMME Course _____ Course Duration _____ Starting Date _____ Level of English _____ (Beginner, Basic, Lower Intermediate, Intermediate, Upper Intermediate, Advanced) PAYMENT DETAILS Methods of Payment _____ (Credit Card/Bank Transfer – Fees will be transferred to) How much would you like to pay now – deposit or full amount? _____
--

39. Use the Internet to find English language school information or contact a university in your area and ask for leaflets about a course you are interested in. Fill in a registration form provided and present it to the class.

UNIT 6

APPLICATION SOFTWARE



Section 1. Grammar Practice:

The Sequence of Tenses. Indirect (Reported) Speech.
Revision of Tenses.

Section 2. Vocabulary and Word Study:

Suffixes: *-al*; *-ous*; *-ary*; *-able/ible*.

Section 3. Reading and Discussion:

Text 6A. Application Programs.
Text 6B. Word Processing Applications.

Section 4. Speaking:

Software (2).

Section 5. Listening:

6A. Desktop Publishing Programs.
6B. Web Browser.

Section 6. Writing:

Studying Abroad.

SECTION 1 GRAMMAR PRACTICE

1. Read and translate the sentences. Say whether the action of the object clause precedes, follows or is simultaneous with the action of the principal clause. Mind the sequence of tenses (See Grammar Reference 6.1.).

1. He says he *needs* a rest.

He *said* that he *needed* a rest.

2. She *thinks* that I *went*
home early.

She *thought* that I *had gone*
home early.

3. They *know* Peter *will see*
them later.

They *knew* Peter *would see* them
later.

4. My friend *says* he *can* speak French.

5. He *says* he *has seen* that book on the teacher's table.

6. He *says* that I *am wasting* my time.

7. Jane *says* that she *may* arrive later.

8. He *thinks* she *has been sleeping*.

9. Mary *says* he *should* go to the dentist's.

10. Sarah *says* she *must* finish the report.

My friend *said* he *could* speak French.

He *said* he *had seen* that book on the teacher's table.

He *said* that I *was wasting* my time.

Jane *said* that she *might* arrive later.

He *thought* she *had been sleeping*.

Mary *said* he *should* go to the dentist's.

Sarah *said* she *must (had to)* finish the report.

2. Read and translate the following sentences into Russian paying attention to the rules of the sequence of tenses.

1. John said those application programs were usually written to work with a particular operating system. 2. He said the library program had been available for all users. 3. The manager said the main productivity tools for our company would include word processing, databases, presentation graphics and communications software. 4. He said he was going to purchase that software. 5. The teacher pointed out that utility was very useful if you wanted to transmit a graphic or long data file over the Internet, as the transmission time would be much reduced. 6. He told me he had given a command to print that document. 7. My friend told me that the software might be designed specifically for one particular company. 8. He told me the computer system would require both application software and system software. 9. He said a disk drive was needed. 10. I told them that we were starting a new computer company. 11. He said he used an embedded computer in his car. 12. Bob told me that a typical business micro-computer could store all its software and data files on hard disk.

3. Put the sentences in the past as shown. Use the rules of the sequence of tenses.

Example:

They *say* a compiler is a complex program. –
They *said* a compiler *was* a complex program.

1. I am sure that a compiler has many advantages over an interpreter. 2. He doesn't know that his friend bought a new computer. 3. He says she is writing down some test data now. 4. I want to ask you who will write a program to enable a student to calculate how much money will be needed per week to buy a meal each weekday. 5. He says he has just explained the differences between second and third generation languages. 6. She wants to know how much money she may need to buy a new computer. 7. She asks me when I wrote that program. 8. They say he will explain why this type of memory will be used by the operating system. 9. I am sure if you spend more than you earn you will soon be in debt. 10. I think Tom has a lot of money on him. 11. I think that his car is five years old, so he can sell it and buy a new one. 12. She says the software can be installed straight away.

4. Change the sentences to indirect speech (See Grammar Reference 6.2.).

a) Statements.

Example:

He *said*, "I *spent* 20 pounds on books." –

He *said* that he *had spent* 20 pounds on books.

1. Mary said, "I completed this program." 2. He said, "This diagram resembles a family tree." 3. She said, "They have tested the program." 4. Bob said, "I'm saving up for my holiday." 5. Kate said, "His new computer costs a fortune, but he can afford it." 6. He said, "My Dad was programmer." 7. John said to his Dad, "I want to go to a café but I don't have enough money." 8. The teacher said, "You may draw a structure diagram for a program to help young students learn multiplication tables." 9. She said, "You must suggest some improvements that can be incorporated in your program." 10. He said, "I didn't understand the difference between these two programs."

b) Direct general (Yes/No) questions. (These questions are reported using *if* or *whether*.)

Example:

Alan asked me, “Do you go to university?” –

Alan asked me if (whether) I went to university.

1. He asked, “Did you collect the data from many sources?” 2. She asked her friend, “Is the main purpose of using computers to process data?” 3. We asked him, “Have you described a purpose of each type of external bus connecting the processor to main memory?” 4. He asked me, “Does this factor in a computer’s architecture influence the structure of its internal buses?” 5. She wanted to know, “Can peripheral devices be connected directly to the processor?” 6. My friend asked me, “Will you use a modem to access the Internet?” 7. The student asked the professor, “Are bits sent via an interface one bit at a time over a single wire from the source to the destination?” 8. Bob asked he teacher, “May I use this computer?” 9. We asked him, “Have they installed the application programs on one computer?” 10. He asked her, “Is the data being sent to a printer now?”

c) Direct special (wh-) questions. (*In reported questions the word order changes – there is no subject/verb inversion.*)

Example:

She asked, “What did you discuss at the seminar?” –

She asked me what we had discussed at the seminar.

1. The teacher asked us, “What advantages does a network have over a collection of standalone microcomputers?” 2. He asked me, “How much did you pay for your new computer?” 3. He asked his friend, “When can you install this program?” 4. She asked me, “What are the main disadvantages of networks?” 5. They asked, “When will Paul proceed with a software study?” 6. He asked them, “Why has it become difficult to make the system secure from hackers?” 7. We asked him, “How does this network operate?” 8. He asked, “When will you examine how dependent we have become on computer systems?” 9. The teacher asked his students, “What measures can a programmer take to solve this problem?” 10. I wanted to know, “How important are computers in people’ home environment?”

d) Requests and orders.

Example:

He *said to me*, “Switch the computer on, please.” –

He *asked me to switch* the computer on.

She *said to me*, “Don’t use a text editor.” –

She *told me not to use* a text editor.

1. The teacher said to his students, “Explain the term *protocol* in the context of transmission over a wide area network.” 2. She said to me, “State the purpose of internal memory.” 3. The teacher said to us, “Don’t make so many mistakes in your test papers.” 4. He said to us, “Read articles on IT in any English journal or newspaper to improve your computer vocabulary.” 5. I asked my friend, “Help me to solve this problem, please.” 6. He asked me, “Give some points a user should consider before deciding to purchase a software package.” 7. I said to my Dad, “Give me some money to buy a new computer, please.” 8. He said, “Don’t buy this software package, Nick.”

5. Revise the forms and use of the Simple, Continuous, Perfect and Perfect Continuous Tenses (*See the Grammar Reference*). Choose the correct translation of the predicates in italics.

1. They *had discussed* a new film when I came into the room.

- a) *обсуждали*
- b) *обсуждают*
- c) *обсудили*

2. They *discussed* a new film yesterday.

- a) *обсудили*
- b) *обсудят*
- c) *обсуждают*

3. They often *discuss* a new film.

- a) *обсудили*
- b) *обсуждают*
- c) *обсудят*

4. They *have already discussed* a new film.

- a) *обсудят*
- b) *обсудили*
- c) *обсуждают*

5. They *had been discussing* a new film for two hours when I came into the room.

- a) *обсуждали*
- b) *обсудили*
- c) *обсуждают*

6. They *will be discussing* a new film at 3 o’clock tomorrow.

- a) *обсудят*
- b) *обсуждают*

- | | |
|--|--|
| 7. They <i>will discuss</i> a new film tomorrow. | c) <i>обсудили</i>
a) <i>обсуждают</i>
b) <i>обсудили</i>
c) <i>обсудят</i> |
| 8. The new film <i>was discussed</i> yesterday. | a) <i>обсудили</i>
b) <i>обсудят</i>
c) <i>обсуждают</i> |
| 9. The film <i>had been discussed</i> when I came into the room. | a) <i>обсудили</i>
b) <i>обсуждают</i>
c) <i>обсуждали</i> |
| 10. They <i>are discussing</i> a new film now. | a) <i>обсудили</i>
b) <i>обсуждали</i>
c) <i>обсуждают</i> |
| 11. The new film <i>has been</i> already <i>discussed</i> . | a) <i>обсуждали</i>
b) <i>обсудили</i>
c) <i>обсуждают</i> |
| 12. They <i>will have discussed</i> a new film by the time I come. | a) <i>обсудят</i>
b) <i>обсуждали</i>
c) <i>обсудили</i> |
| 13. They <i>were discussing</i> a new film when I came. | a) <i>обсудили</i>
b) <i>обсудят</i>
c) <i>обсуждали</i> |
| 14. The new film <i>is discussed</i> every day. | a) <i>обсудили</i>
b) <i>обсуждают</i>
c) <i>обсудят</i> |
| 15. The new film <i>was being discussed</i> when I came. | a) <i>обсуждали</i>
b) <i>обсудили</i>
c) <i>обсудят</i> |
| 16. They <i>have been discussing</i> a new film since the morning. | a) <i>обсудили</i>
b) <i>обсуждают</i>
c) <i>обсуждали</i> |
| 17. The new film <i>was being discussed</i> when I came. | a) <i>обсудили</i>
b) <i>обсуждают</i>
c) <i>обсуждали</i> |

6. Make up 21 sentences with different time expressions (see the table below) both in English and in Russian to illustrate the use of tenses in the Active and Passive Voice (Simple, Continuous, Per-

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fect, Perfect Continuous), then ask your classmate to do back translation.

Example:

They are installing a new program now.

A new program is being installed now.

Сейчас они устанавливают новую программу.

Сейчас устанавливается новая программа.

Simple	Continuous	Perfect	Perfect Continuous
often, every day (week, month, year), usually, always, twice a week (three times a week, etc), daily (weekly, monthly), yesterday, last week (month, year), next week (month, year, etc), in two days, tomorrow.	now, at present, at the moment, from 5 till 7, when somebody came, at 3 yesterday.	already, yet, just, lately, this year (week, month), by 3 o'clock, after, when, before, for, since.	since, for, all (my) life, when, after, before.

7. Put the verb into the correct form.

a) Active Voice.

1. In the future these jobs _____ (involve) working with, creating or distributing new knowledge or information. 2. This year he _____ (carry out) a lot of work away from his office. 3. Computers and robots _____ (become) increasingly important in production processes now. 4. For the last few years individuals and organizations _____ (become) so dependent upon IT systems that the consequences of their failure could be catastrophic to the individual or the organisation. 5. Britain _____ (change) in the 19th century from an agricultural to an industrial society. 6. These companies _____ (provide) many jobs before they entered into competition with existing companies. 7. They _____ (process) the results of the data at 3 o'clock tomorrow. 8. A typical desktop publishing system _____ (include) a desktop computer, a laser printer and software. 9. He _____ (know) Mary since 2001. 10. This old practice of doing business _____ (change) by the beginning of the next year.

b) Passive Voice.

1. This network _____ (use) heavily now. 2. Word processing software _____ (use) to write letters, reports, books and articles. 3. These goods _____ (pay) before they were delivered to the company. 4. An e-mail _____ (send) to the manager next week. 5. The amounts _____ (calculate) by the accountant when one of the customers phoned her. 6. This information _____ (store) in computer files for a long time. 7. In the last chapter a file _____ (define) as a collection of records.

8. Read and translate the following sentences paying attention to the Tense form and the Voice of the predicate. Use a dictionary if necessary.

1. Those conditions were specified during the design stage. 2. This computer will cost \$350 next year. 3. After a sequel file has been updated, two versions or generations of the master file exist. 4. Many economic systems were undergoing fundamental changes during that period of time. 5. The user has given some instructions to the computer to start a program. 6. How a file is organized determines how it can be accessed. 7. This country has been importing most goods from Germany for the last five years. 8. The data is being copied from a source document now. 9. Some efforts had been made by the time I joined the company. 10. A computerized system is being proposed in which the time clock will be replaced by an on-line device through which each employee will pass a swipe card instead of clocking in or out. 11. The company will be preparing its budget in the near future. 12. The demand for this type of computer has been declining in Europe for several years. 13. The manner in which these files are processed depends on whether every record in the file is to be processed one after the other, or whether individual records will be processed in no particular sequence. 14. These products were being designed by a special team when I joined it. 15. The construction of a new office building took years. 16. While one program is executing, the operating system is scheduling the use of input and output devices for other jobs. 17. The next time the file is updated, a third version of the master file will be created. 18. A master file is updated when one or more records is altered by applying a transaction or a file of transactions to it. 19. The batch of data was entered and stored on disk. 20. A network

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operating system is required when a number of computers are connected together in a network.

SECTION 2 VOCABULARY AND WORD STUDY

9. Read and memorize the active vocabulary to the texts of Unit 6 and translate the given sentences.

1. **adjust** [ə'dʒʌst] *v* – регулировать; настраивать; корректировать

adjustment *n* – регулирование; настройка; корректировка

This button is for *adjusting* the volume. I've made a few *adjustments* to the design.

2. **align** [ə'lain] *v* – выравнивать, располагать по одной линии

align left (right) – выравнивать по левому (правому) краю

Align the ruler and the middle of the paper and then cut it straight.

3. **allow** [ə'laʊ] *v* – разрешать; давать разрешение; позволять

You *are not allowed* to use calculators in the exam.

4. **amend** [ə'mend] *v* – изменять, вносить поправки, редактировать

amendment *v* – поправка; изменение

He asked to see the *amended* version. I've made a few last-minute *amendments* to the article.

5. **bug** [bʌg] *n* – ошибка (в программе или системе)

fix bugs – устранять (исправлять, корректировать) ошибки

debug [di:'bʌg] *v* – отлаживать (программу)

There was *a bug* in the computer system. The computer program ran much faster after it *was debugged*.

6. **desktop publishing (DTP)** – настольная издательская система (НИС), настольная редакционно-издательская система (система, предназначенная для верстки печатных изданий: книг, газет, журналов, проспектов и т.д.)

desktop publishing software – программное обеспечение для настольных издательских систем

Desktop publishing software can generate layouts and produce typographic quality text and images comparable to traditional typography and printing.

7. **differ** ['difə] *v* – отличаться, различаться

difference ['dif(ə)rəns] *n* – отличие, различие

These computers *differ* quite a lot in price. Is there any significant *difference* in quality between these two items?

8. **edit** ['edit] *v* – редактировать

edit data – редактировать данные

editor *n* – редактор, программа редактирования

text editor – текстовый редактор, редактор текста

You can download the file and *edit* it on your computer. *Text editors* can be used to create documents such as technical manuals.

9. **enable** [i'neɪbl] *v* – давать (создавать) возможность

A text editor *enables* you to create and edit text files.

10. **equation** [i'kweɪʒ(ə)n] *n* – уравнение

This section illustrates the process of solving *equations* of various forms.

11. **facility** [fə'siliti] *n* – устройство, приспособление, оборудование; средство обслуживания; возможность, условие

Another useful *facility* of the software is an embedded dictionary.

12. **font** *n* – шрифт

font size – размер шрифта

There is a certain rule for *the font size* of academic writing.

13. **footer** ['fʊtə] *n* – подстрочное примечание; нижний колонтитул

header ['hedə] *n* – заголовок, рубрика, «шапка»; верхний колонтитул

The footer gives the page number of the document. *The header* gives the date of the document.

14. **insert** [in'sɜ:t] *v* – вставлять; вкладывать

Position the cursor where you want *to insert* a word.

15. **major** ['meidʒə] *adj v* – главный; большой, более важный; специализироваться по какому-либо предмету

minor ['maɪnə] *adj v* – незначительный, второстепенный; изучать непрофилирующий предмет (в качестве второй специальности)

There are two problems with this situation, one *major*, one *minor*. She *majored in* information technology at Arizona State University. I *minored in* Spanish in college.

16. **similar** ['simələ] *adj* – подобный, сходный, похожий

similarity [,simi'lærɪti] *n* – сходство, подобие

My teaching style *is similar to* that of most other teachers. These theories share certain *similarities*.

17. **spreadsheet** ['spredʃi:t] *n* – крупноформатная (электронная) таблица

spreadsheet application – табличное приложение

I entered the data into *a spreadsheet* on my laptop.

18. **suit** [sju:t] *v* – годиться, соответствовать, подходить; удовлетворять требованиям, устраивать

The software can be modified *to suit* the particular needs of the end user.

19. **template** ['templɪt] *n* – шаблон; образец; модель

If you need to write a lot of similar letters, set up *a template* on your computer.

20. **view** [vju:] *n v* – вид, представление; мнение; точка зрения; смотреть; изучать; рассматривать

The first diagram is *a view* of the shop from the street, and the second shows it in section. We have different *views* about/on education. People came from all over the world *to view* her work. These results should *be viewed* cautiously.

10. Match the pairs of antonyms from A and B. Translate them.

A

1. remove
2. break
3. prohibit
4. coincide
5. disagree
6. prevent
7. different
8. minor

B

- a) allow
- b) enable
- c) insert
- d) suit
- e) similar
- f) differ
- g) major
- h) align

11. Combine nouns from the left and right to form phrases.

- | | |
|-----------------------|----------------|
| 1. software | a) footer |
| 2. text | b) size |
| 3. website | c) editor |
| 4. desktop publishing | d) application |
| 5. font | e) bug |
| 6. spreadsheet | f) software |

**12. Match the noun on the left with a suitable item on the right.
Use each item once only.**

- | | |
|--------------------|------------------------------------|
| 1. The header | a) adjusts the volume. |
| 2. The adjustments | b) was debugged. |
| 3. The button | c) was set up on your computer. |
| 4. Calculators | d) runs much faster. |
| 5. The program | e) gives the date of the document. |
| 6. The computer | f) differ widely on this issue. |
| 7. A template | g) were made to the design. |
| 8. Opinions | h) are not allowed in the exam. |

13. Replace the italicized words with the words below.

a) spreadsheet b) template c) facilities d) aligned e) similarity f) difference g) amended to h) view i) majored j) edited

1. To get good TV reception, the dish must be accurately *lined up* with the satellite. 2. In my *opinion*, we haven't made any progress. 3. In line 20, "men" should be *changed for* "people". 4. He *revised* his manuscript three times. 5. Modern *appliances* such as washing machines, vacuum cleaners and steam irons make housework easier. 6. There is a striking *contrast* between what he does and what he says he does. 7. She *specialized* majored in philosophy at Harvard. 8. We used the structure of his report as the *model* for ours. 9. The report highlights the *analogy* between the two groups. 10. The information is saved in an *electronic table* format for further analysis.

14. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Assist *v*, integrate *v*, formula *n*, computerize *v*, collection *n*, telephone *n*, package *n*, manner *n*, publication *n*, browser *n*, functionality *n*, fix *v*, processor *n*, final *adj*, summary *n*, centre *n*, grammar *n*, idea *n*, slideshow *n*, content *n*, poster *n*, illustration *n*, projector *n*, plastic *adj*, commercial *adj*, adapt *v*, limit *n v*, pause *n v*, import *v*, command *n*, horizontally *adv*, vertically *adj*.

15. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

A telephone number, a slide show, a word processing package, research documents, non-fiction or fiction articles, an online application, a Google account, a power cut, a storage medium, maths symbols; spelling, grammar and language tools; a word-processed letter, business presentation software, multimedia files, a slide projector, trademark issues, a business card, word and character changes, a file format, a client/server model, a mobile device screen

16. Study the ways some adjectives are formed from nouns or verbs. Form the adjectives. Some of the missing words are from the texts of the Unit. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-al** (the suffix means *of or concerning*):

Example: nation – нация → national – национальный

Government, politics, nature, norm, occasion, exception, origin, segment, education, practice, finance, statistics, transition, axis.

b) **-ous** (the suffix means *causing or having*):

Example: fame – известность → famous – известный

Advantage, simultaneity, continue, vary, adventure, ambition, caution, courageous, danger, mystery, nerve, space.

c) **-ary** (the suffix means *of or concerning*):

Example: custom – привычка → **customary** – привычный

Supplement, volunteer, imagine, benefit, discipline, discretion, fragment, custom, inflation.

d) **-able/ible** (the suffixes meaning *having a stated quality or condition or can be done*):

Example: accept – принимать → **acceptable** – приемлемый

Compress, sale, profit, recover, accept, suit, perform, value, distinguish, rely, notice, recognize, understand, access, convert, comfort.

17. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

The environmental impact of pollution, a treaty to reduce the risk of accidental nuclear war, national and international news, a presidential system of government, costal waters, a political party, a spacious office, a fiercely ambitious young manager, an anxious face, a marvelous idea, a continuous line of traffic, a large and various country, a planetary system, legendary heroes, fragmentary snatches of news, the monetary system of some countries, a secondary effect, momentary confusion, a reliable car, conditions suitable to their development, variable in shape, a grammatically acceptable sentence, a highly profitable business, a convertible currency, flexible working hours, a defensible position, divisible by five.

SECTION 3 READING AND DISCUSSION

18. What do you know about application programs? Read the statements given below and say if they are right or wrong. If the statements are not right, make the necessary corrections.

1. Application programs run a computer.
2. A word processing application is used to create any text-based documents.
3. Microsoft Excel allows you to manipulate a text format.
4. The primary purpose of Adobe Flash is to create databases.
5. Microsoft PowerPoint enables you to create multimedia presentations.
6. Deluxe Paint performs payroll tasks.
7. Desktop publishing applications are used to design page presentations.
8. A web browser views pages on the World Wide Web.
9. A new version of a software application is released as version 0.1 of the application.

19. Read Text 6A “Application Programs” and say if you are right or wrong. There is one statement for each paragraph. Discuss the answers with your classmates.

TEXT 6A

APPLICATION PROGRAMS

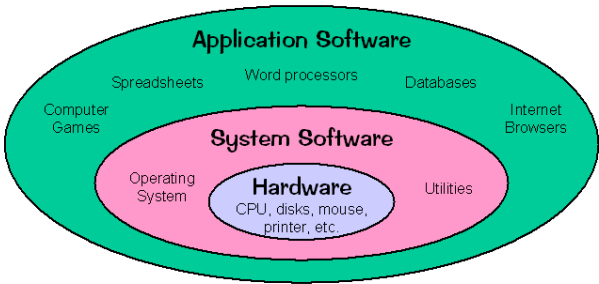
Application programs called apps for short are programs designed to assist you in carrying out a specific task on your computer. The term *application software* refers to all applications collectively. An application differs from an operating system (which runs a computer), a utility (which performs maintenance or general-purpose chores), and a programming tool (with which computer programs are created). Most computers have applications installed that allow you to edit documents, create databases and graphics, and work with multimedia presentations. Some application packages focus on a single task, such as word processing; others called integrated software include several applications. There are many types of application programs.

You can create virtually any text-based document using a word processing application, such as Microsoft Word. Word enables you to enter text and manipulate the format of that text to suit your require-

ments. For example, you can adjust font size, type and colour, use templates to create letters, memos and CVs, and import images from other applications.

Microsoft Excel is a spreadsheet application that is used to carry out general bookkeeping tasks by using cells to organize data values, with the relationships between these cells defined by formulas that you can set.

Microsoft Access is an application that stores computerized databases. A database is a collection of information that is related in



some way, such as a list of all employee's names and telephone numbers.

Presentation packages, such as Microsoft Power-

Point, allow you to create presentations in an efficient and visually appealing manner, which you can print or display as a slide show. Some applications, such as Adobe Flash, produce multimedia presentations with sound, text, and moving graphics. Modern application programs process and present material in a multitude of ways.

Payroll packages, such as Sage Payroll, perform operations that simplify laborious payroll tasks. There is a wide range of applications, such as Deluxe Paint, that creates graphic images.

Desktop publishing applications let you produce materials for publication, such as newsletters, pamphlets, and Web pages. These applications include Adobe Photoshop used to edit and manipulate existing images, and QuarkXPress used to design page presentations.

Your web browser is also a software application that is released as a product and must be installed on your computer. A web browser enables you to view pages on the World Wide Web or your company Intranet, and also enables you to view HTML pages that you may have created or saved on your computer. The most common browsers in use are Mozilla Firefox and Microsoft Internet Explorer.

When a software application is developed, it is released as version 1.0 of the application. When new functionality is added and known problems or bugs have been fixed, the next version of the product is released. Depending on whether it is a major release with lots of new functionality added to the product, or just some minor updates to the software package, it will be named version 2.0, with each minor update using the format 2.1, 2.2, 2.3 and so on [B.H. Nwosu. *Introduction to Information and Communication Technology*].

20. Find in the text the paragraphs describing presentation packages and a web browser, translate them into Russian and read them aloud.

21. Add some more sentences confirming the following statements.

1. An application differs from an operating system. 2. Most computers have applications installed. 3. Word allows you to manipulate a text format. 4. A database is a collection of information. 5. PowerPoint is used to create presentations. 6. There is a wide range of applications. 7. Desktop publishing applications create materials for publication. 8. There are different types of browsers. 9. The next version of a software application is released.

22. Explain the following references.

1. *You* can create virtually any text-based document...
What does the pronoun *you* refer to?
2. ...with the relationships between *these* cells defined by formulas that you can set.
What does the pronoun *these* refer to?
3. *These* applications include Adobe Photoshop... and QuarkX-Press...
What does the pronoun *these* refer to?
4. ...*it* is released as version 1.0 of the application.
What does the pronoun *it* refer to?
5. ...*it* will be named version 2.0...
What does the pronoun *it* refer to?

23. Put the main ideas (1 – 10) in the same order as they are in the text.

1. A web browser.
2. Presentation packages.
3. A word processing application.
4. Desktop publishing applications.
5. A spreadsheet application.
6. The release of software applications.
7. Deluxe Paint.
8. Some specific features of application software.
9. Microsoft Access.
10. Payroll packages.

24. Retell the text in English according to the plan made.

25. Skim Text 6B “Word Processing Applications” and try to understand what it is about and what information is known and new to you.

TEXT 6B

WORD PROCESSING APPLICATIONS

Word processing applications are computer programs, which enable you to create, modify, format, save, copy and print various types of text-based documents. There are a number of word processing applications and programs including Microsoft Word, Open Office and Google Docs. Most word processors are available as part of a word processing package made up of a suite of applications tailored towards business and personal related document formatting. Word processors are commonly used when creating agendas, letters, basic tables, research documents, academic essays, reports, various forms of non-fiction or fiction articles and documents.

At a basic level, most word processing packages perform similar tasks and functions. Microsoft Office Word and Word Perfect both need to be purchased and installed before you can use them, whereas

OpenOffice.org is free to download and install. Google Docs is an online application, accessed via the web, which means you do not actually need to install any software on your computer, unlike the other three. You simply need a Google account and an active Internet connection, and you will be able to access the applications at Google.com.

As the user keys in the text, it appears on the screen and is held in the computer's memory. The user can easily edit the text, correct spelling mistakes, change margins and so on before printing out the final version. The document can also be saved on disk for future amendment or use. Until the instruction is given to save, however, the document held in memory will be lost if, for example, there is a power cut. Memory is a volatile storage medium, and users are well advised to save their work frequently. Here is a summary of some of the features offered by a word processing package such as Microsoft Word: type, correct, delete and move text, change font size, align text left, right or centre, set tabs, set italics, bold and underline, find and replace text, insert graphics, check spelling and grammar, set up templates with type styles for different types of document, work in tables or columns, add headers and footers to each page, create indexes and tables of contents, type equations with mathematical symbols.

Word processors have many advantages over handwriting and manual typewriters. Word processing is faster and easier than writing by hand and you can store documents on your computer, which you cannot usually do on a typewriter. This makes it easier to review and rewrite your documents. You have more formatting choices with a word processor and the spelling, grammar and language tools are useful, too. You can also print copies of your documents, which look neater than handwritten ones. Many language students use word processors to improve their writing skills and because they help them feel proud of their work.

Word processors do have disadvantages, however. First, it is not easy to read long documents on a computer screen. Second, sometimes the printer does not print an exact copy of what you see on the screen. Not all word processors can read each other's files, which is another disadvantage. Finally, word processors do not always work well with e-mail. If you paste a word-processed letter into an e-mail, it may lose a lot of its formatting. Many people use a text editor for the Internet, which is similar to a word processor but has fewer formatting

features and cannot use graphics. Text editors, such as Notepad, use a simple coding system called ASCII (American Standard Code for Information Interchange) [*Basic Word Processing Skills. Forward IT*].

26. Ask your classmates:

a) what word processing applications are; b) what a word processing package includes; c) how word processing applications are installed; d) why users are advised to save their work frequently; e) what specific features a word processing package offers; f) what advantages and disadvantages word processors have.

27. Complete the sentences choosing the best variant corresponding to the contents of Text 6B.

1. Word processors are commonly used for ...
 - a) working with e-mails.
 - b) creating, storing and printing documents.
 - c) using the Internet.
2. Before you can use Microsoft Office Word you need ...
 - a) to download it.
 - b) to access it via the web.
 - c) to buy it.
3. The document held in memory will not be lost if ...
 - a) the instruction is given to save.
 - b) there is a power cut.
 - c) a server crashes.
4. Many language students use word processors ...
 - a) to read long documents.
 - b) to print documents.
 - c) to improve their writing skills.
5. A text editor is similar to
 - a) a coding system.
 - b) a word processor.
 - c) a graphical user interface.

28. Identify the topic of each paragraph of the text and retell it in English.

SECTION 4 SPEAKING

29. Answer the following conversation questions about software.

- 1. What comes to mind when you hear the word *software*?
- 2. How much do you know about computer software?
- 3. What is the greatest piece of software ever created?
- 4. What is your favourite piece of software?
- 5. Do you keep up to date with the latest software?
- 6. How often do you buy new software?
- 7. Have you ever bought pirated software? Would you?
- 8. Have you ever downloaded software illegally?
- 9. Are you surprised that a lot of software is free?
- 10. What do you think of people who design software?
- 11. Would you like to design your own software?
- 12. What more would you like your software to do?
- 13. Do you ever have software problems?
- 14. Would you like to work for a software company?

30. Make up dialogues of your own using the above questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

31. Listen to the Text “Desktop Publishing Programs”. As you listen, make notes under the following headings.

1. What desktop publishing programs do.
2. Templates and Web pages.
3. Changes to text.

4. Desktop publishing programs and word processors.
5. Using graphics.
6. Moving text and graphics on a page.

32. Check your answers with your classmates and Tapescript 6A. Look up the words you do not know in your dictionary.

33. Retell the text about desktop publishing programs.

34. Listen to the Text “Web Browser” and answer the questions that follow.

1. What does a browser do?
2. How does the Web server function?
3. Why are browsers called fully-functional software suites?
4. What do browsers offer?
5. What types of browsers are mentioned in the text?
6. What are their specific features?

35. Check your answers with your classmates and Tapescript 6B. Retell the text.

36. Give examples of some other types of browsers.

SECTION 6 WRITING

Studying abroad gives students the chance to live overseas, integrate themselves into a totally foreign culture, meet other students, and to travel. If you have decided on the country and programme, it is time to apply. This will usually involve your writing letters.

37. Read and translate the letters regarding study abroad.

a) A letter requesting a leaflet of the programme.

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46, Kostyukov street
308012 Belgorod
Russia

12th May, 2013

The Admission Office
University of Bath
Department of Information Technology
Bath, BA2 7AY
UK

Dear Sir/Madam

I am currently studying at V.G. Shukhov Belgorod State Technological University, Russia (Department of Information Technology). I would like to apply for the graduate programme at your university.

Please send me a description of your graduate programme in Information Technology. I would also like to have all the necessary application forms and any additional information necessary to arrange my stay.

Thank you in advance for your kind assistance.

Yours faithfully,

Boris Klimov

b) A letter requesting a supervisor.

V.G. Shukhov Belgorod State
Technological University
Department of Information Technology
46, Kostyukov street
308012 Belgorod
Russia

20th June, 2017

University of Bath
Department of Information Technology
Bath, BA2 7AY
UK

Dear Dr. David Craig

I am Boris Klimov. I am from Russia. I have recently graduated from the Department of Information Technology (BInfTech programme) of V.G. Shukhov Belgorod State Technological University (Belgorod, Russia). Soon I am planning to apply for University of Bath in order to perform MInfTech research there.

As my intention is to study Software Development and I am familiar with some of your books I would like to ask you to become my future supervisor. You can find my CV in the attachment of this letter. I hope it will help you to make a decision.

Please let me know your opinion. I really hope that your answer will be positive.

I look forward to hearing from you at the earliest opportunity.

Yours sincerely,

Boris Klimov

Encl.: CV

c) A letter requesting financial assistance.

V.G. Shukhov Belgorod State
Technological University
Department of Information Technology
46, Kostyukov street
308012 Belgorod
Russia

22nd August, 2017

The Admission Office
University of Bath
Department of Information Technology
Bath, BA2 7AY
UK

Dear Sir/Madam

I have recently applied for the MInfTech programme in the Department of Information Technology of University of Bath. I am from Russia and would like to be considered for financial assistance to cover my costs at your university. Please send complete information about funding openings for students from Russia, Central Europe or the former Soviet Union or any other categories for which I may be eligible.

Thank you for your consideration. I look forward to hearing from you.

Yours faithfully,

Boris Klimov

38. Use the Internet to find the information regarding study abroad programmes. Choose one and write similar letters. Present them to the class.

UNIT 7

PROGRAMMING



Section 1. Grammar Practice:

Present and Past Participles. Absolute Participle Construction. Prepositions of two or more words.

Section 2. Vocabulary and Word Study:

Suffixes: *-ent/-ant*; *-ive*; *-y*.

Section 3. Reading and Discussion:

Text 7A. Computer Programming.

Text 7B. Generations of Programming Language.

Section 4. Speaking:

Programming.

Section 5. Listening:

7A. Ruby.

7B. Python.

Section 6. Writing:

An Academic Transcript.

SECTION 1 GRAMMAR PRACTICE

1. Read and translate the following sentences paying attention to the forms and functions of the Present Participle (See Grammar Reference 7.1.).

a) An attribute

1. One byte can hold one character, or it can be used to hold a code representing, for example, a tiny part of a picture, a sound, or part of a computer program instruction. 2. As with processing power, the amount of memory that comes with a standard PC has increased exponentially over the past 20 years. 3. In the 1950s most of the peo-

ple actually writing programs were scientists and engineers. 4. A word processing package with a graphics capability is an example of this trend. 5. Turbo Pascal provides you with many invaluable debugging facilities. 6. An existing file can be opened with the *reset* procedure. 7. The calculations being made are very accurate. 8. Output waiting to be printed is commonly stored in a queue on disk. 9. John has a sister studying information technology at college in Liverpool. 10. The large building being built in this street is a new college.

b) An adverbial modifier

1. Cache memory is a type of very fast memory that is used to improve the speed of a computer, doubling it in some cases. 2. Having looked through all the documents and letters received that day he called his secretary. 3. Using ASCII (American Standard Code for Information Interchange), each character has a corresponding code, so that if for example the “A” key on the keyboard is pressed, the code “01000001” will be sent to the CPU. 4. The memory of a computer can be thought of as a series of boxes, each with its own unique address, counting from zero upwards. 5. A compiler is a complex program which takes the source code and scans through it several times, each time performing different checks and building up tables of information needed to produce the final object code. 6. Having been repaired, the device began working much better. 7. Having finished her work, she went home. 8. Being packed in strong cases, the goods arrived in good condition. 9. He saw an empty shop while walking around town one day. 10. Sum up what you have told the audience, keeping your key message in mind.

c) A predicative

1. They are developing a new kind of chip that will be able to download a full-length movie in a few seconds. 2. He was investigating why one of the computers was not working. 3. In a large project, several programmers may be working on a single program. 4. People have been trading since man existed as a hunter-gatherer thousands of years ago. 5. Can you be sure that the program is working correctly?

2. Read and translate the following sentences paying attention to the forms and functions of the Past Participle (See *Grammar Reference* 7.2.).

a) An attribute

1. Efforts put into good program design can often save costly maintenance. 2. All standalone PCs come equipped with an in-built hard disk 3. A routine that searches for lost files or restores corrupted files may be stored in a library. 4. These are the programs designed to make life easier for computer users. 5. A single integrated package (e.g. Microsoft Works) has fewer and less sophisticated features than are found in separately purchased packages. 6. There is a trend for general purpose packages to include additional features normally found in different classes of package. 7. There are advantages and disadvantages to each type of file organization, and the method chosen will depend on several factors. 8. The control unit coordinates and controls all the operations carried out by the computer. 9. Each bus is a shared transmission medium, so that only one device can transmit along a bus at any one time. 10. An RS232 interface enables serial transmission of data between a computer and a serially connected printer.

b) An adverbial modifier

1. The word size of a computer is the number of bits that the CPU can process simultaneously, as opposed to the bus size which determines how many bits are transmitted together. 2. Until translated into other languages this article was not widely known. 3. Once certified, the engineer is designated the title of the professional engineer. 4. When asked what he thought of this plan the manager approved it. 5. If changed a little the problem will be easy to solve. 6. Asked whether he intended to return soon, he replied that he would be away for about three months. 7. When faced with unexpected events or delays, managers should be decisive and work well under pressure. 8. When spoken to he explained the advantages of his device.

c) A predicative

1. Computers as we know them were first built in the 1940s. 2. Your car is being repaired now. 3. The CPU is connected to main memory by three separate buses. 4. You will be told where to go to. 5. The room looks nice. Somebody has cleaned it. 6. Your application is still being considered by the director. 7. The control bus is a bi-directional bus meaning that signals can be carried in both directions. 8. Control signals have been sent along the control bus.

3. Mind the use of the Present and Past Participles in the pairs of the following sentences. Translate them into Russian.

Example:

The book *written* by this programmer describes new trends in information technology. – Книга, *написанная* этим программистом, описывает новые направления в информационных технологиях.

The book *describing* new trends in information technology is written by this programmer. – Книга, *описывающая* новые направления в информационных технологиях, написана этим программистом.

1. Microcomputers invented in the 1970s help much in research work. Microcomputers helping much in research work were invented in the 1970s. 2. The university laboratory equipped with up-to-date devices works on new projects. The university laboratory working on new projects is equipped with up-to-date devices. 3. Materials behaving in this manner are called elastic. Materials called elastic behave in this manner. 4. The report on information technology made by Bob is being discussed now. The report on information technology being discussed now was made by Bob. 5. Machines called computers make complicated calculations. Machines making complicated calculations are called computers.

4. Translate what is given in brackets using the Present and Past Participles.

1. Computers read (поступающие) data (называемые) input, process or operate on it and display or print information (называемая) called output. 2. The data bus, typically (состоящая) of 8, 16, or 32 separate lines provides a bi-directional path for moving data and instructions between system components. 3. (Используя) graphics software, such as PowerPoint or Lotus Freelance, professional-looking presentations can quickly and easily be designed. 4. Files (содержащие) passwords must be encrypted. 5. (После того, как мне сказали) the title of my report on software development I decided to go to the library to work at it. 6. (Просмотрев) all the documents and letters he called his secretary. 7. The experiments (проведенные) by our students and (описанные) in the journal illustrated the properties of met-

als. 8. While (выполняя) complex calculations we can apply computers. 9. The (представленная) article has been read by our teacher. 10. One method of preventing confidential data from being read by unauthorized hackers is to encrypt it, (делая) it incomprehensible to anyone who does not hold the “key” to decode it.

5. Define the part of speech and the function of the words with the -ed ending in the following sentences.

1. The technique of multi-programming was developed when computers were operated in batch-processing mode. In batch-processing mode, processing is carried out from beginning to end without user interaction. 2. He answered that question based on the data he had presented. 3. The most common technique used to ensure that data is not lost is to make periodic backups. 4. Chester Carlson invented a dry printing process called electrophotography, commonly known as a Xerox, in 1938. 5. Data stored on secondary storage is typically stored in files, with a file of data being defined as a collection of records. 6. He showed us some journals received by their library. 7. Many different solutions to a particular problem will have been looked at before a particular solution is chosen. 8. The results obtained changed the entire picture. 9. The approach to the problem considered remained traditional. 10. When a computer has data to send, the data is addressed, broken into packets and sent across the network as electronic signals. These signals are placed on the backbone and received by all connected computers.

6. Read and translate the following sentences paying attention to the Absolute Participle Construction (See Grammar Reference 7.3.).

1. They finished the experiment, the result being quite satisfactory. 2. The work having been finished, the workers left the construction site. 3. The weather being fine, we started for a walk. 4. My sister having come back, I went to see her. 5. Most industries use a variety of machines, each machine carrying out a different operation. 6. My friend having fallen ill, we could not go to the cinema. 7. The student knowing English well, the examination did not last long. 8. An exter-

nal force being applied, a deformation takes place. 9. The lesson being over, everybody left the classroom. 10. The new method having been studied in detail, the management decided to introduce it at the plant.

6. Study and memorize the prepositions of two or more words given in Grammar Reference 7.4. Read and translate the following sentences paying attention to them.

1. There is no decision as to when the work might start. 2. The team's success was due to her efforts. 3. He couldn't go to work in Africa on account of his poor health. 4. In order to get a complete picture, further information is needed. 5. The work was done according to his instructions. 6. Owing to the rising cost of fuel, more people are using public transport. 7. He works until 9 o'clock every evening, and that's apart from the work he does over the weekend. 8. Now I can walk to work instead of going by car. 9. Classes were cancelled because of a staff meeting. 10. In spite of feeling tired, we decided to go out. 11. The load was lifted by means of a crane. 12. In view of the fact that all the other members of the group are going, I think you should go too. 13. It was a great success thanks to a lot of hard work. 14. In addition to his flat in London, he has a villa in Italy. 15. With regard to the discussion about IT, I'd like to hear Mr Smith's opinion.

7. Supply the missing prepositions.

1. He owns a big chemical factory ____ running a massive oil business in the USA. 2. We finished the work in time ____ all difficulties. 3. I was able to afford a car ____ by means of a loan. 4. We didn't place orders with this firm ____ the high place. 5. ____ Charles Anderson, the government should pay closer attention to public opinion. 6. ____ his help we finished our work early. 7. ____ the journey, they will speak about that later. 8. They went home early ____ watch the match on television. 9. She got the job ____ her excellent qualifications. 10. You should go out more ____ staying at home all the time. 11. All I could see was the enormous hat on the woman sitting in front of me. 12. The room was empty ____ one man sitting beside the fire.

SECTION 2

VOCABULARY AND WORD STUDY

8. Read and memorize the active vocabulary to the texts of Unit 7 and translate the given sentences.

1. **accurate** ['ækjʊrət] *adj* – точный, тщательный

accurately ['ækjʊrətli] *adv* – точно; тщательно

precise [pri'sais] *adj* – точный, определенный; тщательный

precisely [pri'saisli] *adv* – точно, определено; тщательно

The figures they have used are just not *accurate*. The plans should be drawn as *accurately* as possible, showing all the measurements. Can you give a more *precise* definition of the word? She is very *precise* in her work. My main research interest is discrete mathematics – more *precisely*, theoretical computer science.

2. **approach** [ə'prəʊtʃ] *n v* – подход, позиция, метод; подходить, приближаться; обращаться (к кому-л.); братья, взятыя

approach to the problem – подход (путь) к разрешению проблемы

They decided to adopt/take a new *approach*. We present a new *approach to the problem* employing some statistical data. We *have been approached* by a number of companies that are interested in our product. I'm not sure how *to approach* the problem.

3. **code** ['kəʊd] *n* – код; (машинная) программа

assembly code – ассемблерный код

binary ['bainəri] **code** – двоичный код

machine [mə'ʃi:n] **code** – машинный код

pseudocode ['sju:də(u)kəʊd] – псевдокод, символический код

source [sɔ:s] *n* – источник, основа; документ

source code – исходный код

data source – источник данных

We have broken (cracked) their *code*. The understanding of the information *sources* used by undergraduate students will help the library to acquire regular and current journals and other information. I am doing social science and interviews are my primary *data source*.

4. **compile** [kəm'pail] *v* – компилировать, составлять; собирать (материал, факты и т.п.)

compile time – время компиляции, время работы компилятора; период (этап) компиляции

compiler [kəm'pailə] *n* – компилятор, компилирующая программа

compilation [ˌkɒmpi'leɪʃn] *n* – компилирование; компиляция; собрание (материала, фактов)

It can *be compiled* in separate segments. She *compiled* a French dictionary. *Compilers* can't catch all errors at *compile time*.

5. **define** [di'fain] *v* – определять; характеризовать; устанавливать

definition [ˌdefi'niʃ(ə)n] *n* – определение; толкование

We need *to define* the task ahead very clearly. The mathematical *definition* of an even number is one that is exactly divisible by 2.

6. **determine** [di'tə:min] *v* – определять, устанавливать

determination [di,tə:mi'neiʃ(ə)n] *n* – определение; установление

Computer models help *to determine* whether a particular area is likely to flood. Both methods rely on the accurate *determination* of the pressure of the gas.

7. **encounter** [in'kauntə] *v* – (неожиданно) встретиться; сталкиваться, наталкиваться

We *encountered* a lot of problems.

8. **error** ['erə] *n* – ошибка, погрешность

compile-time error – ошибка этапа трансляции (семантическая или синтаксическая ошибка, делающая дальнейшую трансляцию программы невозможной)

run-time error – ошибка периода исполнения (ошибка в программе, обнаруживаемая только во время ее исполнения)

error-prone – поврежденный ошибкам

No payments were made last week because of a computer *error*. The compiler produces *compile-time errors* and usually indicates what line of the source code is causing the problem. *Run-time errors* indicate bugs in the program or problems that the designers had anticipated but could do nothing about. This is a complex and *error-prone* process. They *fixed* possible *errors* in the new code.

9. **finite** ['fainait] *adj* – ограниченный; конечный

infinite ['ɪnɪfɪt] *adj* – бесконечный

The world's resources are *finite*. The possibilities are *infinite*.

10. **fix** *n v* – исправление (ошибки в программе); местоположение; исправлять; настраивать, налаживать

fix an error – исправить ошибку

fix a problem – уладить проблему

The new software incorporates many bug *fixes* and product improvements. They *fixed* possible *errors* in the new code. This *problem* can be *fixed* quickly.

11. **flowchart** ['fləʊtʃɑ:t] *n* – блок-схема

His figure shows a simple *flowchart* for this process.

12. **follow** ['fɒləʊ] *v* – придерживаться, следовать; соблюдать

Follow my instructions very carefully. They *followed* her academic progress closely.

13. **loop** [lu:p] *n v* – цикл (программы); организовывать цикл или циклы (в программе)

infinite loop – бесконечный цикл (части) программы (*напр.* в результате ошибки)

The program can freeze up due to *an infinite loop*. When you follow the code's logic, the same piece of code keeps executing over and over again infinitely so that it *loops*.

14. **the number** ['nʌmbə] *n* – число, количество

a number of – ряд, некоторое число

Please let us know *the exact number* by fax. He made *a number of* important changes in the project.

15. **occur** [ə'kɔ:] *v* – случаться, происходить

We are investigating how an error like this could *have occurred*.

16. **programming language** ['prəʊgræmɪŋ'læŋɡwɪdʒ] – язык программирования

assembly [ə'sembli] **language** – язык ассемблера

declarative [di'klærətɪv] **language** – декларативный язык

high-level language – язык высокого уровня, высокоуровневый язык

imperative [ɪm'perətɪv] **high-level language** – императивный высокоуровневый язык

low-level language – язык низкого уровня, низкоуровневый язык

machine language – машинный язык

object-oriented language – объектно-ориентированный язык

Java and Perl are important *programming languages*. Each type of CPU has its own *machine language* and *assembly language*, so an assembly language program written for one type of CPU will not run on another. The main advantage of *high-level languages* over *low-level languages* is that they are easier to read, write, and maintain. Java, C++ and Smalltalk are popular examples of *object-oriented languages*.

17. **represent** [ˌrepriˈzent] *v* – представлять; изображать

representation [ˌreprizenˈtei(ə)n] *n* – представление; изображение

These results *represent* a major breakthrough in this research. The results *are represented* in Fig. 3 below. There are many ways of generating a two-dimensional *representation* of an object.

18. **specify** [ˈspesɪfaɪ] *v* – устанавливать; задавать; определять

specification [ˌspesɪfɪˈkeɪ](ə)n] *n* – спецификация; определение; (*pl*) технические условия; технические требования

Each computer *is* uniquely *specified* by its serial number. These are the technical *specifications* of the new model.

19. **technique** [tekˈni:k] *n* – способ, метод, методика; прием

We have developed a new *technique* for detecting errors in the manufacturing process.

20. **term** [tɜːm] *n* – период, срок; семестр; термин; (*pl.*) условия

in terms of – с точки зрения

Taking this decision will cost us more in the short *term*, but will be beneficial in the long *term*. In Britain, the spring *term* starts in January and ends just before Easter. This is a comprehensive dictionary of computer *terms* listed in alphabetical order. These are *the terms* and conditions of your employment. The decimal system represents numbers *in terms of* groups of ten.

9. Match the words with the definitions below.

a) technique	b) loop	c) error	d) code	e) term
f) compiler	g) approach	h) source	i) specification	j) inflation

1. a way of considering or doing something;
2. a system of computer programming instructions;
3. a document that provides information;
4. a program that changes instructions into machine language;
5. a mistake, especially one that affects the result of something;
6. a diagram that shows the stages of a process;
7. a set of instructions repeated until an action is completed;
8. a detailed description of how something should be done;
9. a way of doing an activity that needs skill;
10. a period of time for which something lasts.

10. Match the following English words and word combinations with the Russian equivalents.

- | | |
|-------------------|-------------------------------|
| 1. finite | a) бесконечный |
| 2. representation | b) определение, установление |
| 3. definition | c) с точки зрения |
| 4. in terms of | d) символический код |
| 5. precise | e) представление, изображение |
| 6. a number of | f) поврежденный ошибками |
| 7. determination | g) ряд, некоторое количество |
| 8. pseudocode | h) точный, определенный |
| 9. error-prone | i) определение, толкование |
| 10. infinite | j) ограниченный, конечный |

11. Combine nouns from the left and right to form phrases.

- | | |
|---------------|-----------------|
| 1. data | a) time |
| 2. machine | b) to a problem |
| 3. high-level | c) term |
| 4. approach | d) code |
| 5. run-time | e) compilation |
| 6. compile | f) source |
| 7. autumn | g) error |
| 8. data | h) language |

12. Find the best verb in the box to complete each of the sentences.

a) define	b) fix	c) follow	d) specify	e) occur
f) compile	g) encounter	h) represent	i) determine	j) approach

1. It is not clear what these symbols were intended to _____.
2. The regulations _____ that calculators may not be used in the examination.
3. It took years to _____ the dictionary.
4. This term is difficult to _____.
5. What are the difficulties you are most likely to _____?
6. It should be possible to _____ the extent of the problem.
7. They couldn't _____ my old computer, so I bought a new one.
8. We really ought to _____ the problem in a more scientific manner.
9. Evidence suggests that errors may _____.
10. Why didn't you _____ my advice?

13. Read and translate the following groups of sentences paying attention to the words in italics which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

1. a) My friend failed to *fix* my computer.
b) Let's meet for lunch if we can *fix* a day to suit us both.
c) How did you get into such a *fix*?
d) We tried to *fix* the bookcase to the wall.
e) He didn't *fix* that problem quickly.
f) A *fix* for one bug can introduce new bugs.
2. a) The road went in huge *loops* around the lake.
b) He often *loops* the strap over his shoulder.
c) The infinite *loops* were interrupted.
3. a) Think of a *number* and multiply it by two.
b) I *number* her among my closest friends.
c) A *number* of changes were made in the project.
d) Please let us know the exact *number* by e-mail.
e) He is the world's *number* one athlete.
f) They decided to *number* all the seats in the room.
4. a) An academic year consists of two *terms*.
b) He *terms* him the best student.
c) These are the *terms* to describe computers.

- d) Accounts are available with varying *terms* and conditions.
- e) I am on first-name *terms* with my boss.
- f) The job is great in *terms* of salary.

14. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Code *n* *v*, pseudocode *n*, methodology *n*, series *n*, analysis *n*, algorithm *n*, adequately *adv*, effective *adj*, formulate *v*, normal *adj*, manner *n*, specification *n*, alternative *adj*, syntax *n*, compiler *n*, machine *n*, binary *adj*, assembler *n*, critical *adj*, architecture *n*, structure *n* *v*, composition *n*, compact *adj*, address *n* *v*, industrial *adj*, orient *v*, section *n*, dynamic *adj*.

15. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Problem definition, problem analysis, algorithm design and representation, input and output requirements, example problem, a step-by-step manner, a default symbol, a connector symbol, predefined process symbol, program steps, a syntax error, a standardized communication technique, computer use, a computer error, error-free programs, computer manufacturers, user groups, data addresses, machine code instructions, a final object code.

16. Study the ways some adjectives are formed from verbs and nouns. Form the adjectives. Some of the missing words are from the texts of the Unit. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **-ent/-ant** (the suffixes mean *having quality*):

Example: differ – различаться → **different** – различный

Persist, magnificence, significance, depend, dominate, exist, distance, respond, relevancy, vacancy, insist.

b) **-ive** (the suffix means *having a tendency, or quality*):

Example: construct – строить → **constructive** – строительный

Relate, compete, decorate, produce, act, attract, create, effect, decide, defense, destruct, mass, offense, imagine, protect, conduct.

c) **-y** (the suffix means *full/converted with, tending to*):

Example: sun – солнце → **sunny** – солнечный

Wealth, cloud, might, worth, smoke, bulk, dirt, dust, flower, fog, mud, rain, sketch, snow, stone.

17. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

Dependent on oil and gas imports, different views, the insistent ringing of the telephone, persistent attempts, a significant contribution to the project, a dominant group in a society, geographically distant areas of the world, a vacant seat, driving at excessive speed, highly competitive prices, highly productive manufacturing methods, a creative person, an attractive offer, protective clothing.

SECTION 3 READING AND DISCUSSION

18. Before you read Text 7A “Computer Programming”, discuss the following questions with your classmates or teacher.

1. What is computer programming?
2. What steps do programmers take to make a program?
3. Why is it important to clearly define the problem first?
4. What are the ways of expressing a solution to the problem?
5. What is an algorithmic flowchart?
6. What does it include?
7. Which computer commands does it show?
8. What symbols are used to create a flowchart?
9. What is a pseudocode?

10. How is a source code written?
11. What is debugging?
12. What types of errors can a programmer encounter?
13. What are their specific features?
14. What do compilers do?

19. Read the text to find out if your answers are right or wrong.

TEXT 7A

COMPUTER PROGRAMMING

Computer programming is the process of developing and implementing various sets of instructions to enable a computer to do a certain task. These instructions are considered computer programs and help the computer to operate smoothly. Programmers do not start writing code right away when trying to make a computer program. Instead, they follow an organized plan or methodology that breaks the process into a series of tasks. Here are the basic steps in trying to solve a problem on the computer:

1. Problem Definition.
2. Problem Analysis.
3. Algorithm design and representation (Pseudocode or flowchart).
4. Coding and debugging.

A programmer is usually given a task in the form of a problem. Before a program can be designed to solve a particular problem, the problem must be well and clearly defined first in terms of its input and output requirements. A clearly defined problem is already half the solution. Computer programming requires us to define the problem first before we even try to create a solution.

Let us now define our example problem: “Create a program that will determine the number of times a name occurs on a list.” After the problem has been adequately defined, the simplest and yet the most efficient and effective approach to solve the problem must be formulated. This step usually involves breaking up the problem into smaller and simpler sub-problems.

Example Problem: determine the number of times the name occurs on the list.

Input to the program: the list of names, the name to look for.

Output of the program: the number of times the name occurs on the list.

Once our problem is clearly defined, we can now set to finding a solution. In computer programming, it is normally required to express our solution in a step-by-step manner.

An algorithm is a clear and unambiguous specification of the steps needed to solve a problem. It may be expressed in either human language (English, German), through a graphical representation like a flowchart or through a pseudocode, which is a cross between human language and a programming language.

The ways our solutions are expressed are as follows.

Expressing our solution through human language:

1. Get the list of names.
2. Get the name to look for, let's call this the keyname.
3. Compare the keyname to each of the names on the list.
4. If the keyname is the same with a name on the list, add 1 to the count.

5. If all the names have been compared, output the result.

Expressing our solution through a flowchart:

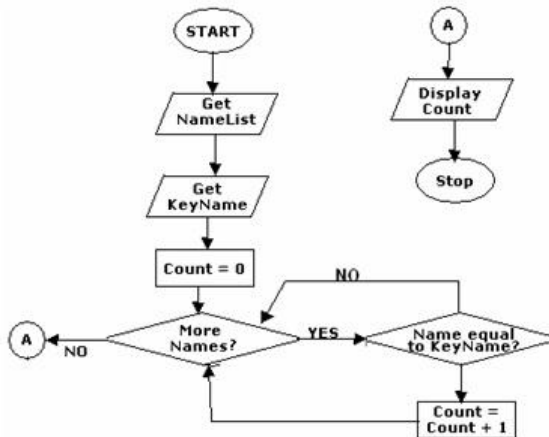




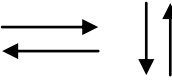
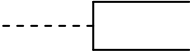
Figure 1. Example of a flowchart.

Expressing our solution through pseudocode:

```
Let nameList = List of Names
Let keyName = the name to be sought
Let Count = 0
For each name in NameList do the following
  if name == keyName
    Count = Count + 1
Display Count
```

Figure 2. Example of a pseudocode.

A flowchart is a design tool used to graphically represent the logic in a solution. Flowcharts typically do not display programming language commands. Rather, they state the concept in English or mathematical notation. Here are some guidelines for commonly used symbols in creating flowcharts. You can use any symbols in creating your flowcharts, as long as you are consistent in using them.

Symbol	Name	Meaning
	Process Symbol	Represents the process of executing a defined operation or groups of operations resulting in a change in value, form, or location of information. Also, functions as the default symbol when no other symbol is available.
	Input/Output (I/O) Symbol	Represents an I/O function, which makes data available for processing (input) or displaying (output) of processed information.
	Flowline Symbol	Represents the sequence of available information and executable operations. The lines connect other symbols, and the arrowheads are mandatory only for right-to-left and bottom-to-top flow.
	Annotation Symbol	Represents the addition of descriptive information, comments, or explanatory notes as clarification. The vertical line and the broken line may be placed on the left, as shown, or on the right.


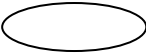

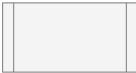
	Decision Symbol	Represents a decision that determines which of a number of alternative paths is to be followed.
	Terminal Symbol	Represents the beginning, the end, or a point of interruption or delay in a program.
	Connector Symbol	Represents any entry from, or exit to, another part of the flowchart. Also serves as an off-page connector.
	Predefined Process Symbol	Represents a named process consisting of one or more operations or program steps that are specified elsewhere.

Figure 3. Flowchart symbols.

After constructing the algorithm, it is now possible to create the source code. Using the algorithm as basis, the source code can now be written using the chosen programming language. Most of the time, after the programmer has written the program, the program is not 100% working right away. The programmer has to add some fixes to the program in case of errors (also called bugs) that occurs in the program. This process is called debugging.

There are two types of errors that a programmer will encounter along the way. The first one is a compile-time error, and the other is a run-time error. Compile-time errors occur if there is a syntax error in the code. The compiler will detect the error and the program will not even compile. At this point, the programmer is unable to form an executable that a user can run until the error is fixed. Forgetting a semicolon at the end of a statement or misspelling a certain command, for example, is a compile-time error. It is something the compiler can detect as an error. Compilers are not perfect and so cannot catch all errors at compile time. This is especially true for logic errors such as infinite loops. This type of error is called a run-time error.

For example, the actual syntax of the code looks fine. But when you follow the code's logic, the same piece of code keeps executing over and over again infinitely so that it loops. In such a case, compilers are not really smart enough to catch all of these types of errors at

compile time, and therefore, the program compiles fine into an executable file. However, and unfortunately, when the end-user runs the program, the program (or even their whole computer) freezes up due to an infinite loop. Other types of run-time errors are when an incorrect value is computed, the wrong thing happens, etc [F.T. Balagtas. *Introduction to Programming*].

20. Find in the text the paragraphs about an example problem, read them aloud and translate them into Russian.

21. Complete the following sentences with details from the text.

1. Programmers follow an organized plan _____.
2. Computer programming requires us _____.
3. This step usually involves _____.
4. _____, we can now set to finding a solution.
5. You can use any symbols _____.
6. The programmer has to add _____.
7. Compile-time errors occur _____.
8. Run-time errors occur _____.
9. Infinite loops _____.

22. Locate the following details in the Text. Give the line numbers.

1. In which lines does the author discuss the ways the solutions to the problem can be expressed?
2. Where in the text does the author explain the meaning of the symbols used for creating flowcharts?
3. Where in the text does the author discuss the construction of an algorithm?
4. At what point in the text does the author mention the types of errors?
5. In which lines does the author explain the use of a compiler?

23. Explain the following references.

1. *It* may be expressed in either human language or through a pseudocode.

What does the pronoun *it* refer to?

2. ...they state the concept in English or mathematical notation.

What does the pronoun *they* refer to?

3. as long as you are consistent in using *them*.

What does the pronoun *them* refer to?

4. The first *one* is a compile-time error, and the *other* is a run-time error.

What do the pronouns *one* and *other* refer to?

5. ...so that *it* loops.

What does the pronoun *it* refer to?

24. Mark the main ideas of the text and retell it in English.

25. Skim Text 7B “Generations of Programming Language” and try to understand what it is about and what information is known and new to you.

TEXT 7B

GENERATIONS OF PROGRAMMING LANGUAGE

A programming language is a standardized communication technique for expressing instructions to a computer. Like human languages, each language has its own syntax and grammar. Programming languages enable a programmer to precisely specify what data a computer will act upon, how these data will be stored/transmitted, and precisely what actions to take under various circumstances.

Machine language – the first generation.

Programming languages are often characterised by “generation”. The first generation of computer language, known as machine code, executes directly without translation. Machine code is the actual pattern of 0s and 1s used in a computer’s memory. The programming of Colossus and other early computers was done with toggle switches representing a pattern of binary codes for each instruction. Machine language is time-consuming, laborious and error-prone. Few programmers code in it today. A language suited to the particular application would be used instead.

Assembly code – the second generation.

In the 1950s when computers were first used commercially, machine code gave way to assembly code, which allowed programmers to use mnemonics (abbreviations that represent the instructions in a more memorable way) and denary numbers (i.e. 0-9) instead of 0s and 1s. Thus ADD or ADX might be an instruction to add two numbers, SUB or SBX an instruction to subtract.

Programs written in assembly languages have to be translated into machine code before they can be executed, using a program called an assembler. There is more or less a one-to-one correspondence between each assembly code statement and its equivalent machine code statement, which means that programs can be written in the most efficient way possible, occupying as little space as possible and executing as fast as possible. For this reason assembly code is still used for applications where timing or storage space is critical. Assembly languages are called low-level languages because they are close to machine code and the detail of the computer architecture. Since different types of computer have different instruction sets which depend on how the machine carries out the instructions, both machine code and assembly code are machine-dependent.

Imperative high-level languages – the third generation.

As computer use increased dramatically in the 1950s, the need grew to make it easier and faster to write error-free programs. Computer manufacturers and user groups started to develop so-called *high-level languages* such as Algol (*Algorithmic language*) and Fortran (*Formula translation*). In the 1950s most of the people actually writing programs were scientists and engineers and so both these languages were created to be used in mathematical applications.

COBOL (*Common business oriented language*) was invented by the redoubtable Admiral Grace Hopper in 1960 specifically for writing commercial and business, rather than scientific programs. Whilst serving in the US Navy in 1947, Grace Hopper was investigating why one of the earliest computers was not working, and discovered a small dead moth in the machine. After removing it the machine worked fine, and from then on computer errors were known as bugs.

Other third generation languages followed: BASIC was created in the 1960s as a language for students to learn programming. Early versions of the language however did not contain the facilities to write

well-structured programs that were easy to maintain and debug, although the language has since developed. In 1971 Nicklaus Wirth designed Pascal (named after the seventeenth century French mathematician) to teach structured programming to students.

The C programming language was developed in 1972 by Dennis Ritchie and Brian Kernighan at the AT&T Corporation for programming computer operating systems. Its capacity to structure data and programs through the composition of smaller units is comparable to that of ALGOL. It uses a compact notation and provides the programmer with the ability to operate with the addresses of data as well as with their values. C shares with assembly language the power to exploit all the features of a computer's internal architecture.

The C++ language, developed by Bjarne Stroustrup at AT&T in the mid-1980s, extended C by adding objects to it while preserving the efficiency of C programs. It has been one of the most important languages for both education and industrial programming. Large parts of many operating systems, such as the Microsoft Corporation's Windows 98, were written in C++.

In the early 1990s, Java was designed by Sun Microsystems, Inc., as a programming language for the World Wide Web (WWW). Although it resembled C++ in appearance, it was fully object-oriented. In particular, Java dispensed with lower-level features, including the ability to manipulate data addresses, a capability that is neither desirable nor useful in programs for distributed systems. In order to be portable, Java programs are translated by a Java Virtual Machine specific to each computer platform, which then executes the Java program. In addition to adding interactive capabilities to the Internet through Web "applets," Java has been widely used for programming small and portable devices, such as mobile telephones.

High-level languages are so called because they are independent of the architecture of any particular computer; one statement written in a high-level language is translated into several machine code instructions before it can be executed. The term *imperative high-level language* refers to languages such as Pascal, BASIC, COBOL and Fortran. Programs written in these languages consist of a number of instructions which the computer follows in a particular programmer-defined sequence [P.M. Heathcote. "*A*" Level Computing].

26. Answer the following questions.

1. What is a programming language?
2. How does a first generation programming language execute?
3. What does a second generation programming language let programmers do?
4. What is a third generation programming language?
5. How do these programming languages differ?
6. What are their examples?
7. What is meant by a low-level programming language?
8. What is a high-level language characterised by?
9. Why are so many high-level languages?
10. What does an assembler do?

27. Complete the sentences choosing the best variant corresponding to the contents of the text.

1. The first generation of computer language is known as ...
 - a) an assembly code.
 - b) a machine code.
 - c) a low-level language.
2. Assembly code is still used for ...
 - a) error-free applications.
 - b) time-consuming applications.
 - c) for applications where storage space is critical.
3. BASI was created as a language for ...
 - a) writing scientific programs.
 - b) writing commercial and business programs.
 - c) students to learn programming.
4. Java was designed for...
 - a) the World wide web.
 - b) programming computer operating systems.
 - c) educational and industrial programming.
5. The term *imperative high-level language* refers to ...
 - a) C++ and Java.
 - b) Pascal and Fortran.
 - c) Algol and COBOL.

28. Identify the topic of each paragraph of Text 1B and retell it in English.

SECTION 4 SPEAKING

29. Answer the following conversation questions about programming. Use the following introductory phases: *in answer to (answering) that question, I would say that...; personally, I...; my opinion is that...; as far as I know, ...; I think that...; To my mind, ...*

1. What computer programming languages do you know?
2. Which language do you use the most often?
3. What is the meaning of the word *language* in a technical and nontechnical sense?
4. What factors characterise programming languages?
5. Is computer programming hard?
6. What are the fundamental principles of programming?
7. What are the basic stages in a program preparation?
8. What machine code does programming require?
9. Does it take much time to make computer programs?
10. How is the program debugged?
11. Would you like a future job as a computer programmer?
12. Do you know any computer programmers?
13. Why do so many people want to be computer programmers?

30. Make up dialogues of your own using the above questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

31. Listen to the Text “Ruby” and say which sentences are true and which are false.

1. Ruby was developed in the 1980s.
2. Ruby is one of the youngest programming languages.
3. It was designed for programming operating systems.

4. One of the factors that makes Ruby flexible is that it exploits all the features of a computer's internal architecture.
5. Ruby is difficult to understand and to learn.
6. It has some similarities with Perl and Python.

32. Check your answers with your classmates and Tapescript 7A. Look up the words you do not know in your dictionary.

33. Retell the text about Ruby.

34. Listen to the Text "Python" about one of the first programming languages and answer the questions that follow.

1. When was Python developed?
2. What serves the language's administrator?
3. Why is Python called a scripting language?
4. What does it let programmers do?
5. Why is Python considered to be one of the most widely used high-level programming languages today?

35. Complete the sentences according to the text.

1. When people _____ the first programming languages and which languages are _____ for people to _____ up quickly, Python inevitably _____ up.
2. The language is open _____ and free to _____, even for commercial _____.
3. It has non-scripting _____.
4. Python _____ object-oriented, procedural, and _____ programming _____.
5. Python does not _____ exactly start you at the _____ basics, but it does teach some _____ useful things like indentation and modularity.

36. Check your answers with your classmates and Tapescript 7B. Look up the words you do not know in your dictionary.

37. Retell the text about Python and its specific features.

38. If you know any other specific features of Python, tell your classmates or teacher about them.

SECTION 6 WRITING

An academic transcript is an official document which states your course, subjects and results, a completion date and a graduation date. A transcript may be needed for verification by prospective employers or by other educational institutions to which you are applying.

39. Study the organisation of this sample academic transcript issued by a British university.

Technological University						
Student Name:	[FIRST NAME] [MIDDLE NAMES] [SURNAME]					
Department:	Information Technology					
Programme Title:	BInfTech (Hons)					
Language of Instruction:	English	Registration Number:	012345678			
Start Date:	02 October 2013	HESA Number:	0000012345678			
Award Name:	Bachelor of Information Technology					
Date of Award:	17 June 2017	Degree Class Awarded:	First Class Honours			
Year 1 Results (2013/14)						
Unit Code	Unit Title	Awarded	Credits Attempt	(%)	Mark Outcome	
CSSE1001	Introduction to Software Engineering	6	1	78	Pass	
INFS2200	Introduction to Information Systems	6	1	64	Pass	
MATH1061	Discrete Mathematics	3	1	82	Pass	
CSSE2310	Computer Systems Principles	3	1	85	Pass	
DECO1400	Introduction to Web Design	6	1	87	Pass	
COSC2500	Numerical Methods	6	1	70	Pass	
<...>						
Year 4 Results (2016/17)						
Unit Code	Unit Title	Awarded	Credits Attempt	(%)	Mark Outcome	
COMP3506	Major Course: Software Design	9	1	68	Pass	
DECO2200	Major Seminar: User Experience Design	6	1	62	Pass	
COMP6803	Computer Science Research Project	6	1	64	Pass	
COMP4500	Advanced Algorithms	3	1	73	Pass	
CSSE4004	Distributed Computing	6	1	66	Pass	
COMP4403	Compilers and Interpreters	3	1	67	Pass	
Issued by:	Ann White, Academic Registrar		Date:	14 May 2017		
Signature:						

40. Read this sample academic transcript translated from the Russian language.

MOSCOW TECHNICAL UNIVERSITY			
Morozov street, build. 20, Moscow, Russia, Zip code:115409, Phone : 011(7-495) 333 22 33. Fax : 011 (495) 333 22 66			
This is to testify that Boris Ivanovich Klimov studied at Moscow Technical University from 1 September, 2013 to 30 June, 2017. In the Bachelor's Degree course of the full-time curriculum at the Department of Computer Science B.I. Klimov, who was majoring in Software Development, studied the following courses and passed the following examinations and tests:			
Course Title	Grade Exam	Final Test	Hours/ Semester
Year 1 Term 1			
1. Introduction to Software	excellent	passed	148
2. Mathematical Analysis	excellent	passed	105
3. Algorithm Presentation		passed	60
4. Programming		passed	30
5. English		passed	60
Year 1 Term 2			
1. Software	excellent	passed	120
2. Programming	excellent	passed	90
3. Computing Mathematics		passed	60
4. Algorithms and Data Structure	excellent		60
5. Discrete Mathematics	excellent		30
6. English		passed	60
<...>			
Year 5 Term 8			
1. Web Programs		passed	54
2. Software Development	excellent		54
3. Information Systems	excellent		54
4. Digital Control Systems		passed	36
5. Computer Graphics		passed	72
6. Pre-degree research		passed	36
The student B.I. Klimov, within the framework of the field work and internship in accordance with his major, accomplished the assignments with an excellent (A) mark. The BInfTech thesis topic: "The Information System for Technological Processes" – excellent (A).			
30 June, 2017			
Dean of the Faculty of Information Technology			

41. Write your own academic transcript in English based on the models above. Present it to the class and discuss it.

UNIT 8

THE INTERNET



Section 1. Grammar Practice:

Gerund. Revision: *to be*; *to have*; questions.

Section 2. Vocabulary and Word Study:

Suffixes: *-en*; *-ise/-ize*; *-ify/-fy*.

Section 3. Reading and Discussion:

Text 8A. Structure of the Internet.

Text 8B. The World Wide Web.

Section 4. Speaking:

Surfing the Net.

Section 5. Listening:

8A. What Is the Internet?

8B. Internet Service Provider.

Section 6. Writing:

A Reference Letter.

SECTION 1 GRAMMAR PRACTICE

1. Study the forms and use of the Gerund (See Grammar Reference 8.1. – 8.4). Read and translate the sentences in which it is used as:

a) a subject

1. Learning to program is one of the most enjoyable parts of this course. 2. This file should be closed when processing is completed. 3. Replacing a manual system by a computerised system can have certain unwelcome consequences. 4. Thinking about computers is enough to cause stress in some people. 5. Maintaining data security means keeping data safe from the various hazards to which it may be subjected. 6. Using only one byte (8 bits) to hold a number places a severe re-

striction on the size of number the computer can hold. 7. Trading is very expensive in a barter economy. 8. Steel manufacturing has evolved greatly. 9. “What is your job?” – “Answering the phone and typing letters.” 10. Smoking cigarettes is bad for you.

b) a part of a predicate

1. The original basis of British industry was coal mining. 2. Our aim is finding new ways of using this material in the machine building industry. 3. Seeing is believing. 4. What he had always wanted was doing what he liked. 5. His great pleasure is reading such books.

c) a direct object

1. Data communication involves sending and receiving data from one computer or data processing device to another. 2. A network allows sharing of information held on disk drives accessible by all users. 3. If the network stops operating then it may not be possible to access various hardware and software resources. 4. Try typing these words onto one of the World Wide Web’s search engines. 5. We began translating that text an hour ago. 6. He admitted having made a mistake. 7. I never go in the bank if it is busy. I can’t stand waiting in a queue. 8. I regret spending all that money. I’ve got none left. 9. I remember having seen that film. 10. I remember having been shown that letter.

d) an indirect object

1. This chapter is concerned with writing data to disk files and reading data from disk files. 2. We are used to seeing PCs on desktops at home, school, businesses and other organizations. 3. A network that is capable of sending voice, video and computer data is called an Integrated Services Digital Network, and this requires a high bandwidth. 4. Investors insisted on being informed about the financial position of the project they supported. 5. These decisions are connected with planning and controlling the work to be done. 6. Reliable information helps managers in finding new potentialities to make their enterprises more profitable. 7. The name of this scientist became known all over the world for his having made great achievements. 8. When I was at school, I thought of working in a computer company. 9. I am proud of being a citizen of Russia. 10. He went on discussing that issue.

e) an attribute

1. All computers have input devices for reading data into main memory, a central processing unit for processing the data, output de-

vices for printing, displaying or outputting information, and auxiliary storage devices for permanent storage of programs and data. 2. Special-purpose or dedicated computers perform a wide variety of tasks from controlling the temperature and humidity in a greenhouse, controlling traffic lights to smooth the flow of traffic or enabling you to use a card at a cashpoint machine. 3. The advantage of buying such a suite of programs is that the individual applications are completely compatible. 4. All digital computers use the binary system for representing data of all types – numbers, characters, sound, pictures and so on. 5. In the last chapter we looked at structure diagrams as a way of developing a solution to a problem. 6. The width of the data bus is a key factor in determining overall system performance. 7. There are no absolute rules for writing pseudocode. 8. The different methods of organizing data are known as data structures. 9. One of the problems of teleworking is that management may fear difficulties in controlling a workforce that is not in the office. 10. The cabling can be a substantial part of the overall cost of installing a network.

f) an adverbial modifier

1. An operating system is a set of programs that allows the user to perform tasks without having to know how they are done. 2. Before we attempt to store any data in memory, either by reading it in or by the use of an assignment statement, we must tell the compiler what type of data we intend to store. 3. After being discussed at the seminar many problems of information technology became clear to us. 4. What other software could you use for this type of problem instead of writing a Pascal program? 5. In doing so, they incurred anger of those the mission of whom was to help. 6. How many carefully chosen guesses should the user need before getting the right answer? 7. When a library book is borrowed, data about the book and the borrower is collected by scanning the bar codes of the book and the borrower's library card. 8. One of the advantages of a bus system is that it is easy to add more stations without disrupting the network. 9. He can't solve this problem without being given some information on this matter. 10. Software that slows you down by crashing frequently, giving incomprehensible error messages, using non-standard function keys and displaying badly structured menus, for example, can leave a user longing to throw the computer through the nearest window.

2. Join the beginnings and ends. Use your dictionary if necessary.

Beginnings	Ends
1. The man was accused	a) for being late.
2. His success depends	b) in playing chess.
3. Jim apologised	c) on seeing the manager.
4. We can't rely	d) of violating the rules.
5. They insisted	e) about my spending all the money.
6. What do you think	f) on making the right move.
7. Tom prevented us	g) on winning the first prize.
8. Our team was congratulated	h) from telling her the truth.
9. My cousin succeeded	i) on his keeping the promise.
10. Don't worry	j) of his coming here uninvited.

3. Use the gerund of the verbs in brackets. Define the functions of the Gerund and translate their sentences.

1. Pseudocode provides a means of (to express) algorithms without (worry) about the syntax of a particular language. 2. An algorithm is a sequence of instructions for (to solve) a problem. 3. State one benefit of (increase) the width of the data bus. 4. (To use) an Integrated Services Digital Network connection to the Internet eliminates the need for a modem. 5. Teleworking involves (to carry out) work away from the office and communicating with the employer through the use of computer and telecommunications equipment. 6. Computer users are prone to eyestrain from (to spend) long hours in front of a screen. 7. A typical hard disk for a PC stores several gigabytes, and is used for (to store) software. 8. The government created companies that employed people in (to build) dams and roads, houses and parks. 9. Notebook PCs are not suitable for (enter) large amounts of data. 10. We knew nothing about his (to have been sent) to New York.

4. Match the English sentence with its correct translation.

1. We look forward to seeing this film.
a) Вы посмотрели этот фильм.
b) Мы с нетерпением ждем, когда посмотрим этот фильм.

- c) Мы смотрели этот фильм.
 - d) Мы посмотрим этот фильм.
2. Do you mind answering this question?
- a) Ты не хочешь ответить на этот вопрос?
 - b) Ты думаешь над ответом на этот вопрос?
 - c) Ты ответишь на этот вопрос?
 - d) Ты не возражаешь, если я отвечу на этот вопрос?
3. I don't like reading aloud.
- a) Мне не нравится, когда ты читаешь вслух.
 - b) Мне нравилось читать вслух.
 - c) Мне не нравится читать вслух.
 - d) Я читаю вслух.
4. She insists on my going there.
- a) Она настаивает поехать туда.
 - b) Она настаивает на отъезде туда.
 - c) Я настаиваю на том, чтобы она поехала туда.
 - d) Она настаивает на том, чтобы я поехал туда.
5. She doesn't like being asked such questions.
- a) Она не любит задавать такие вопросы.
 - b) Она не любит, когда ей задают такие вопросы.
 - c) Она не любит такие вопросы.
 - d) Она любит задавать такие вопросы.
6. She enjoys his singing.
- a) Ей нравится, как он поет.
 - b) Ей нравится петь.
 - c) Ей нравится, что он поет.
 - d) Ей нравятся его песни.

5. Revise the use of the verbs *to be* and *to have* (See the *Grammar Reference*). Read and translate the following sentences paying attention to the functions of these verbs.

a) 1. Only three different “building blocks” or program constructs were needed to write a structured program. 2. The document held in memory will be lost if there is a power cut. 3. The following numbers were to be entered in order to be stored in a binary tree for subsequent processing. 4. The data was being transmitted using an odd

parity system. 5. The organizations were becoming increasingly interested in various forms of teleworking.

b) 1. The algorithm has been poorly structured. 2. This signal has to be sent to tell the robot what to do. 3. He has created the first labour union at the plant. 4. The program has to calculate the maximum, minimum and average temperature and display the results. 5. Each station has its own cable to the server.

6. Revise the structure and use of the four types of questions (*See the Grammar Reference*). What would you say in these situations? Put yes/no (general) questions.

Example:

You want to know if John has been to Moscow.

Has John been to Moscow?

1. You aren't sure if your friend is using JavaScript to make his website more attractive. 2. You want to know if Jane wants to take a distance-learning course. 3. You are wondering if Sheila went to the lecture. 4. You want to suggest to Mary that you both go to the library. 5. You need to know if Tom will manage his own online company. 6. You want to know if it is easy to read documents on a computer screen. 7. You are wondering if they like Web design. 8. You want to ask Peter if you can use his laptop. 9. You want to know if Jack has got a computer. 10. You aren't sure if Matthew is working for a computer company.

7. Read the text, and then write questions for the answers.

Example:

Larry Page and Sergey Brin. → Who was Google invented by?

Google is the most popular Internet search engine in the world. It was invented by *two students, Larry Page and Sergey Brin*. They met in 1995, when they were both studying computer science at Stanford University, USA. They were also both fans of the science fiction TV programme *Star Trek*, and they loved the spaceship computer. They dreamed of producing something that could also answer any question in seconds.

Internet search engines at the time were slow and gave many websites that weren't useful. In January 1996, Page and Brin decided to make a better and faster search engine. They thought the results should be based on the popularity of each website – the most popular ones have the highest number of ‘weblinks’ (links to other websites). Nobody would give them money for their project, so they used their credit cards and bought as much computer memory as possible. They also borrowed money from family and friends. Then, in 1998, they were given a cheque for \$100,000, and they started their own company. Their first office was in a friend's garage! The company name Google comes from mathematics. A “googol” is a very high number – 1 followed by a hundred zeros.

The Google search engine was soon used by thousands of people worldwide because it was fast, easy and accurate. By 2002 it was the biggest search engine on the Internet. Now, more questions have been answered by Google than any other Internet service, from sport to science, and from music to medicine. Google hopes that in the future all the world's information will be put on the Internet, so that everybody can find everything.

1. *The most popular Internet search engine in the world.*
2. *Two students.*
3. *In 1995.*
4. *Slow.*
5. *In January 1996.*
6. *The popularity of each website.*
7. *Money from family and friends.*
8. *In 1998.*
9. *In a friend's garage.*
10. *From mathematics.*
11. *Because Google was fast, easy and accurate.*
12. *By 2002.*
13. *Everybody can find everything.*

8. Complete the following sentences with the correct question tags.

1. The Internet is an increasingly important part of everyday life for people around the world, _____?
2. Some people don't like using multimedia, _____?
3. Your computer sends a request over these

wires to a server, _____? 4. There are a lot of things you can do on the Internet, _____? 5. He will set up his own online community, _____? 6. Websites can resemble other forms of media, _____? 7. Let's turn to another aspect of this problem, _____? 8. My friend isn't interested in writing software, _____? 9. The web browser displays websites, _____? 10. Two fundamental principles must be observed, _____? 11. The company used videoconferencing for meetings, _____? 12. You won't need wire cables, _____? 13. She has her own e-mail account, usually called an email address, _____? 14. My brother has studied IT, _____?

SECTION 2 VOCABULARY AND WORD STUDY

9. Read and memorize the active vocabulary to the texts of Unit 8 and translate the given sentences.

1. **conform** [kən'fɔ:m] *v* – соответствовать

This equipment *does not conform* to the safety standards.

2. **contain** [kən'tein] *v* – содержать в себе, вмещать

This book *contains* all the information you need.

3. **end system** – конечная система (система, обеспечивающая передачу через все семь уровней протоколов ISO/OSI и эквивалентная хосту в интернете)

host [həʊst] *n* – хост (устройство, подключенное к сети и использующее протоколы TCP/IP); главный компьютер; ведущий компьютер

End systems allow users to interact directly with the Internet to send and receive data. The files were transferred from *the host* to your local computer.

4. **enhance** [in'hɑ:ns] *v* – улучшать, усовершенствовать

enhancement [in'hɑ:ns] *n* – усовершенствование; улучшение; модернизация; расширение (*напр.* возможностей программных средств)

The images can *be enhanced* using digital technology. We have made many *enhancements* to the software.

5. **firewall** ['faɪəwɔ:l] *n* – межсетевой экран (МЭ), брандмауэр, защитная система, заслон, «огненная стена»

The most effective and important first step you can take to help protect your computer is to turn on *a firewall*.

6. **hook up** ['huk'ʌp] *v* – соединять, подключать, связывать

hookup ['hukʌp] *n* – присоединение, подключение

Check that the computer *is hooked up* to the printer. This is a satellite *hookup* between the major European networks.

7. **Hypertext** [ˌhaɪpə'tekst] **Markup Language** (HTML) – язык гипертекстовой разметки, язык HTML

Hypertext Markup Language (HTML) defines the structure and layout of a Web document by using a variety of tags and attributes.

8. **link** *n v* – связь, звено, связующее звено; соединять, связывать

The page has *links* to relevant websites. The video cameras *are linked* to a powerful computer.

9. **be made up of** – состоять из

This team which will *be made up of* qualified experts.

10. **measure** ['meʒə] *n v* – мера; степень; измерять, иметь размеры

measurement ['meʒəmənt] *n* – размер, измерение

The Richter Scale is *a measure* of ground motion. He *measured* the table. This table *measures* two metres by one metre. We can find the size of something by means of *measurement*.

11. **pattern** ['pætn] *n* – образец, модель; схема; структура; шаблон; рисунок

They analyzed employees' e-mail usage *patterns*.

12. **plug** [plʌg] **in (into)** *v* – вставлять в контактное гнездо

The speakers *plug in* at the back of the computer. I filled the kettle and *plugged it in*.

13. **protocol** ['prətəkɒl] *n* – протокол (формат передаваемых сообщений; соглашения и правила, по которым происходит обмен информацией между компьютерами или системами)

run a protocol – запустить протокол

Hypertext Transfer ['trænsfə:] **Protocol** (HTTP) – протокол передачи гипертекстовых файлов, протокол HTTP (используемый WWW-браузерами и WWW-серверами при передаче HTML-файлов)

Internet Protocol (IP) – протокол (сети) интернет, интернетовский протокол

Transmission [trænz'mi](ə)n] **Control Protocol (TCP)** – протокол управления передачей (основной протокол транспортного и сеансового уровней в наборе протоколов интернет)

Each *protocol* has its own method of how data is formatted when sent and what to do with it once received, how that data is compressed or how to check for errors in data. When accessing any web page entering *http://* in front of the address tells the browser to communicate over *Hypertext Transfer Protocol (HTTP)*.

14. **rate** ['reit] *n* – скорость, интенсивность, частота

transmission rate – скорость передачи

At the *rate* we are moving, it will be morning before we arrive. The effective *transmission rate* is expressed as a number of units of data per unit time, such as bits per second or characters per second.

15. **restrict** [ri'strikt] *v* – ограничивать

restriction [ri'strik](ə)n] *n* – ограничение

We had to *restrict* the number of students on the course. The 30 mph speed *restriction* applies in all built-up areas.

16. **search** [sə:tʃ] *n v* – поиск, перебор (вариантов); искать, перебирать (варианты)

search engine ['endʒin] – система поиска, поисковая система (в Интернете), поисковик

Today, the most popular and well-known *search engine* is Google. You can also *search* online for a job.

17. **sequence** ['si:kwəns] *n* – последовательность, порядок (следования)

Put these numbers into the correct *sequence*. The computer generates a random *sequence* of numbers.

18. **switch** *n v* – переключатель; коммутатор; выключатель; переключать; коммутировать

link-layer switch – переключатель канального уровня

packet switch – узел коммутации (коммутатор) пакетов (в сети), пакетный выключатель

router ['ru:tə] *n* – роутер, маршрутизатор

I couldn't find the off *switch* on the remote control. Press these two keys *to switch* between documents on screen. A *router* has a lot

more capabilities than other network devices, such as a hub or a switch that are only able to perform basic network functions.

19. **tier** ['tiə] *n* – ярус; ряд

data tier – ярус данных, информационный ярус

The company will send you text alerts prior to the close of the bill cycle when you approach 75% and 100% of your data limit. If you are on a tiered data plan, for every *data tier* that you go over, you will receive a message warning when you approach 75% of that *data tier*.

20. **ultimate** ['Altimit] *adj* – крайний, последний, окончательный; предельный, максимальный

Our *ultimate* aim is to increase production.

10. Match the words on the left with their definitions on the right.

- | | |
|-------------|---|
| 1. router | the main computer in a network |
| 2. switch | a set of rules allowing computers to communicate |
| 3. host | a connection between pieces of equipment |
| 4. search | one of the levels in a system |
| 5. protocol | a device that sends data packets along networks |
| 6. hookup | a network security system |
| 7. tier | the process of finding information |
| 8. firewall | a device that turns on or off an electric current |

11. Match the pairs of synonyms from A and B and translate them.

A

1. final
2. succession
3. limitation
4. speed
5. model
6. dimension
7. connection
8. comply with
9. include
10. contain

B

- a) restriction
- b) measurement
- c) pattern
- d) conform
- e) be made up of
- f) ultimate
- g) rate
- h) contain
- i) sequence
- j) link

12. Combine nouns from the left and right to form phrases.

- | | |
|------------------|--------------------|
| 1. end | a) tier |
| 2. internet | b) rate |
| 3. transmission | c) system |
| 4. search | d) markup language |
| 5. packet switch | e) engine |
| 6. data | f) protocol |
| 7. hypertext | g) switch |

**13. Match the verb on the left with a suitable item on the right.
Use each item once only.**

- | | |
|------------|--------------------------|
| 1. install | a) to the standards |
| 2. hook up | b) a protocol |
| 3. run | c) into the main network |
| 4. contain | d) to the Internet |
| 5. take | e) off the lights |
| 6. plug | f) measurements |
| 7. switch | g) a router |
| 8. conform | h) information |

14. Make the following sentences complete by translating the words and phrases in brackets.

1. The measures taken should considerably (усовершенствовать) the software. 2. You can (измерять) its length more accurately. 3. As soon as a Web user opens a Web browser, the user is making use of (протокол передачи гипертекстовых файлов). 4. We (ограничить) the number of students per class to 10. 5. You can get the address by doing an Internet (поиск). 6. (Переключатель канального уровня) is used in access networks. 7. These devices (соответствовать) with the latest safety regulations. 8. A (протокол управления передачей) works with a (протокол сети), which defines how computers send packets of data to each other. 9. My manager will make the (окончательный) decision about who to employ. 10. All messages entering or leaving the Intranet pass through the (межсетевой экран).

15. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Smartphone *n*, automobile *n*, jargon *n*, host *n*, coaxial *adj*, optical *adj*, radio *n*, spectrum *n*, transmission *n*, bit *n*, second *n*, segment *n*, byte *n*, packet *n*, provider *n*, national *adj*, international *adj*, website *n*, prototype *n*, popularity *n*, separate *v adj*, anonymity *n*, register *v*.

16. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

An e-mail message, the Internet end systems, a picture frame, security systems, the Internet jargon, a packet switch, communication links, copper wire, radio spectrum, transmission rate, a university Internet service provider, a telephone company, a coffee shop, network access, residential broadband access, a cable modem, a content provider, high-speed fiber-optic links, a client device, a cell phone.

17. Study the ways some verbs are formed from adjectives or nouns. Form the verbs. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) the suffix **-en**:

Example: broad – широкий → broaden – расширять

Cheap, strength, length, wide, weak, quick, bright, dark, deep, fresh, hard, light, sharp, thick, white.

b) the suffixes **-ise/-ize**:

Example: symbol – символ → symbolize – символизировать

Formal, commercial, modern, industrial, private, computer, summary, emphasis, memory, pressure, special, economy.

c) the suffixes **-ify/-fy**:

Example: simple – простой → simplify – упрощать

Pure, specific, intense, person, class, note, mode, solid, diverse.

18. Read and translate the following phrases using the above patterns. Look up the words in a dictionary if necessary.

To widen the scope of the existing activities, to lighten the load of work, to strengthen a bridge, to lengthen one's stay, the resources to modernise, to be slow to industrialise, to computerise the records, to summarise the results of the research, to specialise in software development, to specify a computer by its serial number, to classify according to the subject, to modify the software, to diversify one's business.

SECTION 3 READING AND DISCUSSION

19. Before you read Text 8A "Structure of the Internet", discuss the following questions with your classmates or teacher.

1. What is the Internet?
2. What does it consist of?
3. What devices can be hooked up to the Internet?
4. What types of communication links do you know?
5. What are their functions?
6. How do packet switches work?
7. What is an Internet Service Provider?
8. What does it provide?
9. What does an Internet protocol specify?
10. Why are private networks often referred to as Intranets?

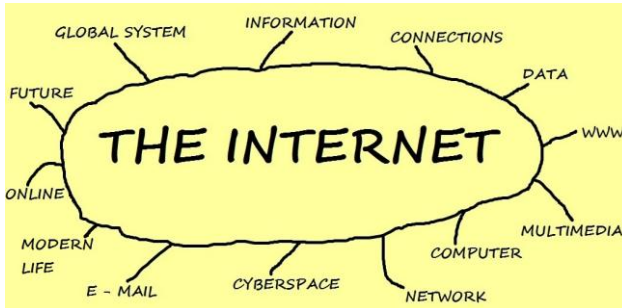
20. Read the text to find out if your answers are right or wrong.

TEXT 8A

STRUCTURE OF THE INTERNET

The Internet, sometimes called the Net, is a computer network that interconnects hundreds of millions of computing devices through-

out the world. Not long ago, these computing devices were primarily traditional desktop PCs, Linux workstations, and so-called servers that store and transmit information such as Web pages and e-mail messages. Increasingly, however, nontraditional Internet end systems such as laptops, smartphones, tablets, TVs, gaming consoles, Web cams, automobiles, environmental



sensing devices, picture frames, and home electrical and security systems are connected to the Internet.

Indeed, the term *computer network* is beginning to sound a bit dated, given the many nontraditional devices that are hooked up to the Internet. In the Internet jargon, all of these devices are called hosts or end systems.

End systems are connected together by a network of communication links and packet switches. There are many types of communication links, which are made up of different types of physical media, including coaxial cable, copper wire, optical fiber, and radio spectrum. Different links can transmit data at different rates, with the transmission rate of a link measured in bits/seconds. When one end system has data to send to another end system, the sending end system segments the data and adds header bytes to each segment. The resulting packages of information, known as packets in the jargon of computer networks, are then sent through the network to the destination end system, where they are reassembled into the original data.

A packet switch takes a packet arriving on one of its incoming communication links and forwards that packet on one of its outgoing communication links. Packet switches come in many shapes and flavours, but the two most prominent types in today's Internet are routers and link-layer switches. Both types of switches forward packets toward their ultimate destinations. Link-layer switches are typically used in access networks, while routers are typically used in the network core. The sequence of communication links and packet switches trav-

ersed by a packet from the sending end system to the receiving end system is known as a route or path through the network.

End systems access the Internet through Internet Service Providers (ISPs), including residential ISPs such as local cable or telephone companies; corporate ISPs; university ISPs; and ISPs that provide Wi-Fi access in airports, hotels, coffee shops, and other public places. Each ISP is in itself a network of packet switches and communication links. ISPs provide a variety of types of network access to the end systems, including residential broadband access such as cable modem or DSL, high-speed local area network access, wireless access, and 56 kbps dial-up modem access. ISPs also provide the Internet access to content providers, connecting Web sites directly to the Internet. The Internet is all about connecting end systems to each other, so the ISPs that provide access to end systems must also be interconnected. These lower-tier ISPs are interconnected through national and international upper-tier ISPs such as Level 3 Communications, AT&T, Sprint, and NTT. An upper-tier ISP consists of high-speed routers interconnected with fiber-optic links. Each ISP network, whether upper-tier or lower-tier, is managed independently, runs the IP protocol, and conforms to certain naming and address conventions.

End systems, packet switches, and other pieces of the Internet run protocols that control the sending and receiving of information within the Internet. The Transmission Control Protocol (TCP) and the Internet Protocol (IP) are two of the most important protocols in the Internet. The IP protocol specifies the format of the packets that are sent and received among routers and end systems. The Internet's principal protocols are collectively known as TCP/IP.

There are also many private networks, such as many corporate and government networks, whose hosts cannot exchange messages with hosts outside of the private network (unless the messages pass through so-called firewalls, which restrict the flow of messages to and from the network). These private networks are often referred to as Intranets, as they use the same types of hosts, routers, links, and protocols as the public Internet [J.F. Kurose, K.W. Ross. *Computer Networking: A Top-Down Approach*].

21. Find in the text the paragraph describing the packet switches, read it aloud and translate it into Russian.

22. Add some more sentences confirming the following statements.

1. The term *computer network* is beginning to sound a bit dated.
2. Different links can transmit data at different rates. 3. Packet switches come in many shapes and flavours. 4. End systems access the Internet through Internet Service Providers. 5. The Internet is all about connecting end systems to each other. 6. The Transmission Control Protocol and the Internet Protocol are two of the most important protocols in the Internet. 7. There are many private networks.

23. Locate the following details in the Text. Give the line numbers.

1. In which lines does the author discuss nontraditional Internet end systems?
2. Where in the text does the author explain the meaning of the end system?
3. Where in the text does the author discuss the sequence of communication links?
4. At what point in the text does the author mention the upper-tier and lower-tier ISPs?
5. In which lines does the author explain the use of the Internet protocols?

24. Explain the following references.

1. In the Internet jargon, all of *these* devices are called hosts or end systems.
What does the pronoun *these* refer to?
2. ...where *they* are reassembled into the original data.
What does the pronoun *they* refer to?
3. A packet switch takes a packet arriving on one of *its* incoming communication links...
What does the pronoun *its* refer to?
4. *Both* types of switches forward packets toward their ultimate destinations.
What does the word *both* refer to?

5. ...*they* use the same types of hosts, routers, links, and protocols as the public Internet.

What does the pronoun *they* refer to?

25. Identify the sentences in the text that contain the Present Participle and Gerund. Read and translate them into Russian.

26. Find in the text some key words and expressions to speak about the structure of the Internet and retell the text in English.

27. Skim Text 8B “The World Wide Web” and try to understand what it is about and what information is known and new to you.

TEXT 8B

THE WORLD WIDE WEB

The term *World Wide Web* (WWW) refers to the collection of public websites connected to the Internet worldwide, together with the client devices such as computers and cell phones that access its content. For many years it has become known simply as *the Web*. The basic building blocks of the Web are pages of text – web pages. A collection of web pages on the same computer is called a website. Every web page has highlighted phrases called links (or hypertext links) all over it. Clicking one of these takes you to another page on this website or another website entirely.

Tim Berners-Lee, an English computer scientist, led the development of the World Wide Web in the late 1980s and early 1990s. He helped to build prototypes of the original core Web technologies and coined the term WWW. Websites and Web browsing exploded in popularity during the mid-1990s and continue to be a key usage of the Internet today. The WWW is one of many applications of the Internet and computer networks. It is based on these three core technologies:

HTML – Hypertext Markup Language. HTML originally supported only text documents, but with enhancements during the 1990s grew capable of handling frames, style sheets and plugins for general purpose website content publishing.

HTTP – Hypertext Transfer Protocol. HTTP finally made it to version 2.0 after 20 years, indicative of how well the protocol accommodated the Web’s growth.

Web servers and Web browsers. The original Netscape has given way to many other browser applications, but the same concepts of client-server communication still apply.

The Web is built on top of the Internet. The examples of popular applications of the Internet separate from the Web include e-mail, Peer to Peer (P2P) networks like BitTorrent, TOR and other Dark Web (darknet) systems. All major websites have adjusted their content design and development approach to accommodate the rapidly increasing fraction of the population accessing the Web from small-screen phones instead of large screen desktop and laptop computers.

Privacy and anonymity on the Internet are an increasingly important issue on the Web as significant amounts of personal information including a person’s search history and browsing patterns are routinely captured (often for targeted advertising purposes) along with some geolocation information. Anonymous Web proxy services attempt to provide online users an extra level of privacy by re-routing their browsing through third-party Web servers.

Websites continue to be accessed by their domain names and extensions. While *dot-com* domains remain the most popular, numerous others can now be registered including *.info* and *.biz* domains. The competition among Web browsers continues to be strong as IE and Firefox continue to enjoy large followings, Google has established its Chrome browser as a market contender, and Apple continues to advance the Safari browser.

HTML5 re-established HTML as a modern Web technology after having stagnated for many years. Similarly, the performance enhancements of HTTP version 2 have ensured that the protocol remains viable for the foreseeable future.

The World Wide Web opened up the Internet to everyone, not just scientists. It connected the world in a way that was not possible before and made it much easier for people to get information, share and communicate. It allowed people to share their work and thoughts through social networking sites, blogs and video sharing [*B. Mitchell. WWW – World Wide Web*].

28. Ask your classmates:

a) what World Wide Web is; b) what it is made up of; c) what a website is; d) who the WWW was developed by; e) what technologies the WWW is based on; f) what their specific features are; g) what popular Internet applications are mentioned in the text; h) why all major websites have adjusted their content design; i) what the function of a Web proxy service is; j) how websites can be accessed; k) why the competition among Web browsers is strong.

29. Consider the following statements.

1. Websites and Web browsing exploded in popularity during the mid-1990s and continue to be a key usage of the Internet today.

Do you agree? Can you give your reasons?

2. The Web is built on top of the Internet.

Do you agree to that? What is really meant?

3. Privacy and anonymity on the Internet are not an important issue on the Web.

Do you agree? Can you express your opinion?

4. The WWW only opened up the Internet to scientists.

Do you agree? Can you give your reasons?

30. Give a brief overview of the structure and contents of the text and retell it in English.

SECTION 4 SPEAKING

31. Practise the following illustrative dialogues.

Dialogue 1

Using a Search Engine

Nick: There are millions of web pages on the Net. How do I find what I'm looking for?

Ted: Use a search engine like Google.

Nick: How does it work?

Ted: You enter the name or topic you are interested in and then ask the search engine to find pages about your topic.

Nick: It must take a long time to search all those pages.

Ted: Not really, usually less than a minute.

Dialogue 2 **Downloading a Program**

Andy: I've just downloaded a new program for writing web pages.

Kate: Make sure you check it for viruses before you unzip it.

Andy: That's a good idea.

Kate: Last month my brother downloaded an infected file. It was a big problem.

Dialogue 3 **Making a Web Page**

Paul: Hi, Liz. Are you working on your web page now?

Mary: No, I'm still waiting for you to send me that image file for the homepage?

Paul: You mean you didn't get it? I sent it to you over an hour ago.

Mary: Let me check. It's going to take a second 'cause I have to start up my computer.

Paul: OK. Did you get it?

Mary: One second. I just have to open my web browser and check my hotmail account.

Paul: OK.

Mary: OK, here it is. I got it.

Paul: How do I find the web page? I tried to search for it on Yahoo but I couldn't find it.

Mary: Don't use Yahoo, use Google.

Paul: I tried that also and it didn't work.

Mary: If you go to Google and search for my name, you should be able to find it.

Paul: OK. Let me try that. I see it now.

Dialogue 4
Using the Internet

Elena: Hey, Ivan, how often do you use the Internet?

Ivan: Oh, I use it everyday! I check my e-mail, read the news, chat with friends all around the world. I love the Internet!

Elena: Me too. Yeah, it's great, isn't it? Sometimes I stay online for hours. I also download pictures and music.

Ivan: Using the Internet, I can do a lot of things. Just today I've read about what's happening in my country, then I've searched for some information about how to play tennis better, and finally I've used some software called *Pal Talk* to chat with friends in England and the USA.

Elena: That's cool! You chat with them by typing text messages, right?

Ivan: Not only text, I do "voice chat" too. I have a microphone and speakers. It's like using a telephone.

Elena: Hey, I'd like to try that too. Shall I just go to www.paltalk.com?

Ivan: Yes, that's right. Once you download their software, you can begin to chat right away. You can speak to people all over the world and all you need is a mic!

Elena: That sounds like a good way to practise English. But sometimes I need more English practice. Do you know any good sites specially made for students learning English?

Ivan: Well, you could try <http://www.teacherjoe.us> for various kinds of materials. You might be able to meet some fellow students there who can help you more.

Elena: Thanks, Ivan, I think I'll try it out. Oh, I have to be going. Do you happen to know which bus I should take to get to the bookshop selling foreign literature?

Ivan: I think you can go to bjbus.com to find information on all the bus routes in town.

Elena: Too bad, I don't have the Internet wired directly to my brain! Thanks, Ivan. Bye!

Ivan: Bye, Elena!

32. Answer the following conversation questions about using the Internet.

1. What sort of Internet connection do you have? How reliable is it?
2. Have you ever considered changing your Internet service provider?
3. Is your Internet fast enough?
4. How many hours a day or a week do you spend on the Net? Is it too many?
5. Do you ever get on the Internet using your mobile phone?
6. What do you think of this method of using the Net?
7. What is your preferred search engine? Why is it the best?
8. How often do you search the Internet for an answer to a trivial question?
9. Do you have any experience running a blog or creating a website?
10. How much spam do you receive? Have you ever answered a spam e-mail?
11. Have you ever caught a virus over the Internet? What happened?
12. Do you have many passwords? Do you have any tricks for remembering them?
13. Do you download films or music from the Internet? What do you think of the morality of this?

33. Make up dialogues of your own using the illustrative dialogues as models and the above conversation questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

34. Listen to the Text “What Is the Internet?” and answer the questions that follow.

1. How did the Internet begin?
2. Why is the Internet called a network of networks?

3. Does anyone own the Internet?
4. What is the difference between the terms *Internet* and *WWW*?
5. What allows users to navigate the Internet?

35. Check your answers with your classmates and Tapescript 8A. Retell the text.

36. Listen to the Text “Internet Service Provider”. As you listen, make notes under the following headings.

1. The connection to the Internet.
2. Early Internet service providers.
3. Faster broadband Internet access.
4. A modem and an active account.
5. A router.

37. Check your answers with your classmates and Tapescript 8B. Look up the words you do not know in your dictionary.

38. Retell the text about Internet service providers.

SECTION 6 WRITING

A *reference letter* is usually written to testify to a person’s skills, character and/or achievements. Sometimes a reference letter is known as a recommendation letter. It is a formal document, and should be

typed and written in a serious and business-like style. Reference letters are used in a wide variety of situations.

Reference letters from teachers are a crucial part of the college application packet. Each letter must be unique and describe the student's work ethic, grades, activities and awards. It is also helpful if the letter starts or ends with a quote that relates to the career the student will pursue. Crafting a strong reference letter is a task that will help the student immensely.

39. Read the information about some specific features of reference letters.

The exact structure of a reference letter will differ slightly depending on the type of reference it is, but this is a good basic outline:

1. Start using the business letter format: put the recipient's name and address, if known, and address them as "Dear [name]". If the recipient is currently unknown (this would be likely on an academic application, for instance), then use "Dear Sir/Madam" or "To whom it may concern".

2. It is often helpful to introduce yourself in the first couple of lines of your letter. The recipient will not need your life history: just give a brief sentence or two explaining your position and your relationship to the candidate.

3. Your next paragraph should confirm any facts which you know the candidate will be supplying along with your letter. For example, if you are writing a reference for a job applicant, some or all of these details may be appropriate:

- the person's job title, and role within the company;
- the person's leaving salary when he/she was last employed by you (or your organisation).
- the dates which the person was employed from and until.

If you are writing a reference letter for an academic course, you will need to confirm the person's academic grades.

4. In your third paragraph, you should provide your judgement upon the candidate's skills and qualities. It is often appropriate to state that you would gladly re-employ them, or that their contributions to your college class were highly valued. Single out any exceptional

qualities that the candidate has – perhaps their drive and enthusiasm, their attention to detail, or their ability to lead.

5. Close your letter on a positive note, and if you are willing to receive further correspondence about the candidate’s application, make this clear. Include your contact details too.

6. As with any business letter, you should end appropriately: “Yours sincerely” when you are writing to a named recipient, and “Yours faithfully” when you do not know who will be receiving the letter.

40. Read and translate these sample reference letters.

A.

15th October, 2017

Dear Madam/Sir (or To Whom It May Concern),

I am writing in support of Edward Miller for a study abroad programme. I have known Edward since September, 2011. He was a member of an Information Technology tutorial that I taught in 2015 – 2016. Edward was an active and conscientious member of the class. He challenged the rest of the class to consider issues from new perspectives and often asked very penetrating and important questions. He chose to take on difficult topics and handled them well. His assignments were well-written, well-supported, organized, neat, and timely. It was evident that Edward really desired to learn more and challenge himself.

Edward also has interest outside of academics. He has been an active member of the university singing group and the campus tennis club. Edward’s personality is wonderful. He is outgoing and friendly, but not dominating. He has an obvious and sincere concern for others.

Edward Miller would be a wonderful student to have at your university. He has skills that he is eager to share, but he is just as eager to learn. I feel very confident that he will be extremely successful in all his future endeavours. He is a focused and determined young man. I highly recommend him for the programme.

Should you require any further details regarding Edward Miller, you may contact me at 3232-2323. My e-mail is patricia.smith@123.net.

Yours faithfully,

Patricia Smith
Professor of Information Technology
University of Leeds

B.

20th November, 2017

To Whom It May Concern:

I am writing in support of James Green, who is applying for a study abroad programme. He has been a student in my history classes for the past two years. During that time, I have found him to be both a strong student academically and a role model and leader for his peers.

James is the type of student who always takes the initiative to help out fellow students who may not quite grasp the material, and he does so in a way that is neither condescending nor boisterous. Though he is aware of his own intelligence, as evidenced by his willingness to challenge himself with honours courses and extra credit work, he has an air of modesty about him that makes him approachable and well-liked among his classmates.

In addition to being James' teacher, I also had the opportunity to serve as an advisor for the university community service organization he founded. James single-handedly organized group meetings to encourage student participation, and contacted local organizations to coordinate volunteer opportunities. Though I was his go-to person for advice, I trusted him completely in managing the group on his own.

James would make an excellent addition to the programme. I recommend him without hesitation. Should you have any questions, please feel free to contact me.

Yours faithfully,

Dr. Samuel Higgings
Professor of Computer science
University of London

C.

29th March, 2017

To Whom It May Concern:

It gives me immense pleasure to write in recommendation of John Smith for admission to your graduate programme in Information Technology. I have known John for three years, and have instructed him in four separate courses. I have also served as John's academic adviser for the last two years.

John has routinely ranked in the top 10% of his class, and is consistently one of the top students in each of his individual courses. He is hardworking, energetic and curious. I have no doubt that he will succeed in his future academic endeavours.

Last semester, John presented his information system for technological

processes. Not only did this project earn him top honours, the ABC Company took notice and has now hired John on for a summer internship. This project was carried out during the course of one semester, demonstrating John's strong work ethic.

I have no doubt that John will make a tremendous impact on the world at large. I am positive he will make outstanding contributions to your programme.

Yours faithfully,

Dr. Thomas Cook
Professor
University of Manchester

41. Imagine that you have been asked to write a reference letter for one of your classmates applying for a study abroad programme. Using the above information, write a reference letter. You have a high opinion of a candidate and confidently recommend him/her. Supply your own details.

UNIT 9

THE DIGITAL WORLD



Section 1. Grammar Practice:

Infinitive. Revision: *-ing* forms.

Section 2. Vocabulary and Word Study:

Prefixes: *re-*; *un-*, *in-*, *im-*, *il-*, *ir-*, *dis-*.

Section 3. Reading and Discussion:

Text 9A. The Digital Era.

Text 9B. Videoconferencing.

Section 4. Speaking:

Participating in a Student Conference.

Section 5. Listening:

9A. Mobile Phone.

9B. Netiquette.

Section 6. Writing:

An Abstract for a Research Paper.

SECTION 1 GRAMMAR PRACTICE

1. Study the forms and use of the Infinitive in Grammar Reference 9. Read and translate the following sentences paying attention to the different forms of the Infinitive and their meaning.

1. I'd like to go home early today. 2. It's nice to be sitting here.
3. I'm glad to have left school. 4. He doesn't like to be interrupted while he's working. 5. I remember to have been asked this question. 6. I'd like to have been sitting there when she walked in. 7. She asked me not to forget to post the letter. 8. I was sorry not to have phoned you. 9. We must make careful plans. 10. I would rather go by myself.

2. Read and translate the sentences in which the Infinitive is used as:

a) a subject

1. To study basic stages of programming is the aim of the seminar. 2. To enter this market requires a lot of hard work. 3. To answer this question means to find a solution of the problem. 4. To encourage our employers to develop their skills is one of the prime concerns of management. 5. To drive a car in a big city is very difficult. 6. To keep employment low means to effectively use labour resource of society. 7. To make the world better was his aim. 8. To control an economy is the same as to intervene it.

b) an adverbial modifier

1. The actual siting of a mainframe computer is kept secret to lessen the danger of a terrorist attack that could cause chaos to an organization. 2. Pascal was invented in the 1970s by Niklaus Wirth to teach structured programming. 3. Data can be defined as the raw material which a computer accepts as input and then processes to produce useful information. 4. Sound such as music or speech can be input via a microphone, CD or electronic keyboard to be processed by a computer. 5. Specific status signals indicate the state of a data transfer request, or the status of a request by a component to gain control of the system bus. 6. In order for digital data to be sent over a telephone line, it must first be converted to analogue form and then converted back to digital at the other end. 7. Some companies may use computers to monitor their workers' productivity. 8. Many computer users prefer a dim light to achieve better screen contrast. 9. Noisy printers should be given covers to reduce the noise or positioned in a different room. 10. To protect against input and operating procedure errors, standard procedures may be documented and followed for both input and output.

c) an object

1. This program runs as soon as the computer is switched on and instructs it to load the operating system from disk into memory. 2. When the CPU wishes to access a particular memory location, it sends this address to memory on the address bus. 4. This program allows the user to enter an integer of up to 9 digits. 5. A network allows electronic mail to be sent between users. 6. If sixteen students sit down at sixteen computers all at once and all try to load software from the net-

work's hard disk, the whole system more or less grinds to a halt. 7. Suppose you wanted to log on to the IBM website but did not know the address. What would you try first? 8. An Intranet is a company-wide network run along the lines of the WWW, making it possible to share documents, databases and applications.

d) an attribute

1. Top-down design is the technique of breaking down a problem into the major tasks to be performed. 2. Every computer needs an operating system to act as an interface between the user and the computer hardware. 3. Some modules will be standard procedures used again and again in different programs; for example, a routine to display a standard opening screen. 4. The ability to declare local variables within subprograms is very useful in modular programming. 5. The processor sends the address of an instruction, or of data to be stored or retrieved, to memory or to an I/O controller. 6. The data to be printed has to be sent to the printer. 7. There is no need for much of the work of an organization to be done at a Head Office in a city; it is more economical for it to be done in a more remote area where office rates and housing are cheaper, and employees can be paid less. 8. Viruses are generally developed with a definite intention to cause damage to computer files. 9. The user enters the data and the formulae to be used in manipulating the data. 10. An important feature of modern software is its ability to integrate with other packages.

e) a part of a predicate

1. The aim of this book is to provide a comprehensive yet concise textbook covering all the topics studied for an Advanced Level course in Computing. 2. The purpose of the control bus is to transmit command, timing and specific status information between system components. 3. The problem is to decide which activities we must use. 4. In most cases the viruses' first action is to copy itself from the disk onto the PC and "hide" within obscure files or the operating system code. 5. A trading business's primary reason for existence is to sell a product. 6. One way of preventing these errors occurring is to add an extra digit to the end of a code number which has been calculated from the digits of the code number. 7. One crucial task is to identify and state what data needs to be held. 8. A common strategy for backups is to combine normal and differential backups.

3. Identify the subject and the predicate in the following pairs of the sentences. Translate them into Russian.

1. To become a software engineer it is necessary to pass an examination in programming. To become a software engineer was my friend's dream. 2. His task was to finish the work in time. It was necessary to finish the work in time. 3. In order to explain this problem the teacher demonstrated some diagrams. His aim was to explain this problem. 4. Much has been done to make this job easier. To make this job easier they used up-to-date equipment. 5. To prevent corrosion metal must be covered with paint. It was important to prevent corrosion of metals.

4. Replace the group of words in italics by an infinitive. Translate the sentences.

Example:

He was the first man *who came* to the party.

He was the first (man) *to come* to the party.

Он первым пришел на вечеринку.

1. She is always the first guest *who arrives* and the last guest *who leaves*. 2. Is a solicitor the best person *who will advise* me about buying a house? 3. You are the only person *who complains*. 4. If you have any more news, you will be the first person *who will know*. 5. Everybody was late except me. I was the only one *who arrived* on time. 6. He was the last person *who came*. 7. Anne was the only student *who passed* the exam. 8. I was the third customer *who complained* to the manager about the service. 9. Neil Armstrong was the first man *who walked* on the Moon. 10. He was the first man *who swam* the Channel.

5. Read and translate the following sentences paying attention to the different functions of the Infinitive.

1. The only way to ensure e-mail privacy is to use an encryption program. 2. Handshaking is the exchange of signals between devices to establish their readiness to send or receive data, for example between a computer and printer. 3. A binary system uses just 2 symbols to represent all information. 4. Before we look at the binary system, it

is helpful to examine how our ordinary decimal or denary number system works. 5. Pascal is a good language to start with and you will find it easy to learn, say, Delphi if you have studied Pascal. 6. More experienced programmers can be given the more complex modules to write. 7. Jobs waiting to be run by the computer may be held in a queue. 8. Command signals specify operations to be performed. 9. The invention of a new type of peripheral would require the processor to be redesigned. 10. In order to allow equipment from different suppliers to be networked, a strict set of rules (protocols) has been devised. 11. This method is not good enough to be used in this research. 12. We are constantly upgrading our software to meet customers' needs.

6. Revise the forms and use of the *-ing forms* (see the *Grammar Reference*). Compare the Gerund and the Present Participle in the sentences below. In every case state the subject and the predicate.

1. Your reading and speaking English every day is very important if you want to master the language. Reading and speaking English every day you will master the language. 2. Investing money in new technologies the company increases the production efficiency. Investing money in new technologies increases the production efficiency. 3. Reading such books we obtain important information. Reading such books is necessary. 4. Knowing the nature of the company's problems the management must solve them as soon as possible. Knowing the nature of the company's problems is not sufficient. 5. I like reading "Computers and Education" journal. Reading "Computers and Education" journal I improve my computer knowledge.

7. Identify the *-ing forms* and translate the following sentences into Russian.

1. Being helped he solves such problems easily. 2. He likes being helped. 3. Being in New York they went sightseeing. 4. While being in New York they went sightseeing. 5. His friend's being in New York was of much help to him to improve his English. 6. His friend is being helped now. 7. Being translated into many foreign languages, Tolstoy's novels are read with great interest all over the world. 8. Before being sent up the balloon was filled up with a special gas. 9. He

insisted on his sister's being at home in the afternoon. 10. You have come early. Your text is still being translated because it is long and very difficult.

8. Find the sentences in which the *-ing form* is a) Present Participle or b) Gerund. Translate the sentences into Russian.

1. Using a dictionary, we can translate any technical text dealing with my future profession. 2. We know several ways of solving this problem. 3. The students coming from other cities live in the hall of residence. 4. Having finished a secondary school, he was admitted to university. 5. Being addressed in German, he couldn't answer anything. 6. Studying science is meaningless without equipment for conducting experimental work. 7. The power plant being built in this region will be one of the largest in this country. 8. Knowing BASIC will help you. 9. There is no sense in going there. 10. People interfering in other people's affairs are unpleasant to deal with.

9. Analyse the *-ing forms* in the sentences below. State which of them are Present Participles and which are Gerunds. Motivate your decision. Translate the sentences into Russian.

1. An interface is a standardised form of connection defining such things as signals, number of connecting pins/sockets and voltage levels that appear at the interface. 2. With asynchronous transmission, one character at a time is sent, with each character being preceded by a start bit and followed by a stop bit. 3. Data compression is frequently used when transmitting large quantities of data, thereby reducing the number of blocks transmitted and hence the cost. 4. Data compression basically works by replacing repeated bytes by one copy of the byte plus a count of the repetitions. 5. Each computer may communicate with any other computer in the ring, with messages being specifically addressed to the destination computer. 6. This is a local area network covering a university campus. 7. This saves wasting time browsing aimlessly through thousands of files and also enables unsuitable material to be screened out. 8. Waiting for her I looked through the magazines lying on the table. 9. Having obtained the necessary results, we stopped our experimental work. 10. The ability of

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such hackers to carry out illegal actions without being detected is often hampered by the audit and monitoring software that all computer operating systems supply. 11. The motive behind hacking can be mischievous rather than anything more sinister: computing students who are learning about operating systems may take delight in penetrating a university's security system to prove that it can be done, or to gain access to exam questions and answers. 12. The virus is capable of reproducing itself. 13. Directing is motivating others to work efficiently, to achieve the goals of the organization. 14. A company is storing details of its customers on a database. 15. Describe the stages involved in producing personalised letters using the mail merge facility.

SECTION 2 VOCABULARY AND WORD STUDY

10. Read and memorize the active vocabulary to the texts of Unit 9 and translate the given sentences.

1. **band** [bænd] *n* – полоса (частот); диапазон

bandwidth ['bændwidθ] *n* – полоса (частот); полоса пропускания; пропускная способность (канала)

broadband ['brɔːdbænd] *n* – широкополосная передача

A short-wave radio uses the 20 – 50-metre *band*. The system will handle signals that need high *bandwidth*. Internet connection via *broadband* offers many advantages.

2. **benefit** ['benefit] *n v* – выгода, польза; извлекать пользу

beneficial [ˌbeni'fiʃl] *adj* – выгодный; полезный

The discovery of oil brought many *benefits* to the town. The new plan may *benefit* many students. Work experience is usually highly *beneficial* for students.

3. **bold** ['bɔːld] *adj* – жирный, полужирный (о шрифте)

italics [i'tæliks] *n* – курсив

bold italics – полужирный курсив

Highlight the important words in *bold type*. This sentence is printed in *italics*.

4. **cloud computing** [ˌklaʊd'kæmpjuːtɪŋ] – облачные вычисления, «облака» (модель предоставления вычислительных ресурсов через Интернет)

cloud computing technology – технология облачных вычислений

Many new companies are now running on a *cloud computing* service rather than investing in hardware or software.

5. **conduct** [kən'dʌkt] *v* – проводить; ставить (опыты); вести; руководить

They *are conducting* a survey. I decided *to conduct* an experiment. I like the way the company *conducts* business. She *conducts* an education programme.

6. **deal (with)** [di:l] (**dealt** [delt]) *v* – иметь дело (с), рассматривать вопрос

This section *deals with* the basics of report writing. How do you intend *to deal with* this problem?

7. **dedicated** ['dedikeitɪd] *adj* – специализированный; выделенный, назначенный

dedicated system – специализированная система

Software is exported through a *dedicated* satellite link. We have one TV channel dedicated to news, and another *dedicated* to sport.

8. **gateway** ['geɪtwei] *n* – сетевой шлюз (аппаратный маршрутизатор или программное обеспечение для сопряжения компьютерных сетей, использующих разные протоколы); межсетевой переход (интерфейс)

Internet gateway – интернет-шлюз

Thanks to *gateways*, we are able to communicate and send data back and forth.

9. **information highway** ['haɪwei] – информационная магистраль (глобальная высокоскоростная сеть передачи цифровых данных, речи и видеоинформации по спутниковым, кабельным и оптоволоконным линиям связи)

information superhighway – информационная супермагистраль (высококласная магистраль для передачи информации)

The information highway is the driving force behind economic growth through new services delivered to home and business and through the transformation of existing services.

10. **irrespective (of)** [ˌɪrɪ'spektɪv] – безотносительно (к чему-л.); независимо (от чего-л.)

The weekly rent is the same *irrespective of* whether there are three or four occupants.

11. **pan** [pæn] *v* – панорамировать

The camera *panned* back to the audience.

12. **prevent (from)** [pri'vent] *v* – мешать, препятствовать (чему-л.), не допускать; предотвращать

prevention [pri'ven](ə)n *n* – предотвращение, предупреждение

Nothing *would prevent* him *from* speaking out against injustice. He *prevented* me *from* going. As far as health is concerned, it is often said that *prevention* is better than cure.

13. **rely** [ri'lai] *v* – полагаться, надеяться; доверять

reliable [ri'laiəb(ə)l] *adj* – надежный

Scientific research *relies on* the application of various methods. Our information comes from a *reliable* source.

14. **remote** [ri'məut] *adj* – дистанционный, удаленный

remote server – удаленный сервер

Connect the *remote* control unit to the camera recorder. This enables you to get *remote* access to your e-mail. The farmhouse is *remote* from any other buildings. Our company recently upgraded its user interface to allow individuals working from home to access *the remote server* on a real time basis.

15. **reply** [ri'plai] *n v* – ответ; отвечать

She sent me an e-mail in *reply*. He didn't *reply* to my e-mail.

16. **society** [sə'saiəti] *n* – общество; объединение; организация

information society – информационное общество, общество с развитой информационной технологией

A person's job is one of the factors that determines their place in *society*. He is a member of numerous professional *societies*. This country made significant progress towards the goal of creating *an information society*.

17. **stand for** [stænd] (**stood**) *v* – означать

SMTP *stands for* Simple Mail Transfer Protocol.

18. **stream** [stri:m] *n* – поток

audio ['ɔ:diəu] **stream** – поток аудиоданных, аудиопоток

digital ['didʒit(ə)l] **stream** – цифровой поток

video ['vidiəu] **stream** – поток видеоданных, видеопоток

The core technology used in a videoconferencing system is digital compression of *audio and video streams* in real time.

19. **telecommute** [ˌtelɪkəˈmju:t] / **telework** [ˌtelɪˈwɜ:k] *v* – работать дистанционно, присутствовать дистанционно; работать в режиме удаленного офиса с использованием компьютеров, телефонов, факсов и других средств связи с офисом работодателя

telecommuter / **teleworker** *n* – человек, работающий в режиме удаленного офиса

The company now allows some of its employees *to telecommute*. There are now millions of *telecommuters* with virtual offices.

20. **tilt** *v* – наклонять

Tilt the mirror away from you. The boat *tilted* to one side.

11. Match the pairs of antonyms from A and B. Translate them.

A

1. useless
2. close
3. conceal
4. office worker
5. question
6. neglect
7. permission
8. irresponsible

B

- a) stand for
- b) prevention
- c) reply
- d) reliable
- e) deal with
- f) beneficial
- g) telecommuter
- h) remote

12. Match the following attributes on the left with a suitable noun on the right.

1. cloud computing
2. Internet
3. information
4. digital
5. frequency
6. bold
7. dedicated
8. remote

- a) stream
- b) system
- c) band
- d) gateway
- e) italics
- f) server
- g) technology
- h) highway

13. Match the noun on the left with a suitable item on the right. Use each item once only.

- | | |
|-------------------|---|
| 1. The experience | a) was printed in bold type. |
| 2. The signals | b) was short and to the point. |
| 3. The sentence | c) deals with computer problems. |
| 4. The experiment | d) relies on experiment. |
| 5. The lecture | e) was based on social justice. |
| 6. The camera | f) will benefit you. |
| 7. The research | g) stands for <u>radio detection and r</u> aging. |
| 8. The reply | h) pans slowly across the room. |
| 9. The society | i) need high bandwidth |
| 10. A radar | j) was conducted yesterday. |

14. Insert the correct word from the Active Vocabulary.

1. The front seats of the car _____. 2. Allowing staff to _____ can give small firms a valuable competitive advantage. 3. The computer generates a steady _____ of e-mails. 4. Today's society is sometimes called the _____ society. 5. No one can _____ you from attending this meeting. 6. We consider all qualified job applicants, _____ of age. 7. For basic Internet connections at home, the _____ is the Internet Service Provider that gives you access to the entire Internet. 8. A _____ system is a system that is specifically _____ to and controlled for a specific mission, either for full-time operation or a specified period of time. 9. In the simplest terms, _____ computing means storing and accessing data and programs over the Internet instead of your computer's hard drive. 10. The computer centre will bring lasting _____ to the community.

15. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Sort *n*, activity *n*, economic *adj*, transform *v*, satellite *n*, channel *n*, barrier *n*, distance *n*, commerce *n*, method *n*, reserve *v*, universal *adj*, terminal *n*, mobility *n*, coordination *n*, potential *adj*, infrastructure *n*, energy *n*, correspondence *n*, filter *n v*, really *adv*, culture *n*.

16. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Information age, information revolution, information society, data exchange, a communication channel, a payment method, a plane ticket, a movie or music CD, business-to-business transactions, telecommunication technology, two-way video and audio transmissions; low cost, high capacity broadband telecommunication services; video compression techniques, a compression rate, an audio spectrum range, a display device, a digital telephone network, a local telework center, satellite offices, a network bridge, virtual call center, good quality laptop computers, travel time, a camera photo.

17. Study the ways some verbs and adjectives are formed. Form the verbs and adjectives with the help of the prefix *re-* and the words meaning negation. Some of the missing words are from the texts of the Unit. Read and translate them into Russian. Use your dictionary to help you with the pronunciation.

a) **re-** (the prefix means a repeated action, again in a new way):

Example: read – читать → **reread** – перечитывать

Discover, consider, create, awaken, define, distribute, examine, open, construct, appear, build, generate, start.

b) **un-, in-, im-, il-, ir-, dis-** (the prefixes have a negative or opposite meaning):

Example: able – способный → **unable** – неспособный

- 1) **un-** is the most common, e.g. *unusual*;
- 2) **in-** is often used before words with a Latin origin, e.g. *invisible*;
- 3) **im-** is used before some words beginning with *m* or *p*, e.g. *impolite*;
- 4) **il-** can be used before *l*, e.g. *illegal*;
- 5) **ir-** is used before a few words beginning with *r*, e.g. *irreplaceable*;

6) **dis-** is used before some adjectives and verbs, e.g. *dislike*.

Conventional, equal, acceptable, employed, adequate, formal, perfect, probable, literate, logical, regular, responsible, agree, believe, patient, possible, practical, dependent, relevant.

18. Read and translate the following sentences having the verbs with *re-* prefix. Use a dictionary if necessary.

1. We will refund you your money in full. 2. You should completely rewrite your essay. 3. They are going to reorganize the firm. 4. Make sure that you re-present your cheques by the end of the week. 5. A car isn't the sort of thing you renew every year. 6. I failed my exam but I can retake it next year. 7. We need to reappraise the situation in a year's time. 8. I'm going to redo that report.

19. Use one of the prefixes below to give the adjectives the opposite meaning. Translate the phrases. Use a dictionary if necessary.

un-	in-	im-	il-	ir-
------------	------------	------------	------------	------------

- | | |
|----------------------------|------------------------------|
| 1. an ___capable performer | 9. an ___efficient manager |
| 2. an ___logical idea | 10. an ___liquid assets |
| 3. an ___cashed cheque | 11. an ___matured bill |
| 4. an ___perfect market | 14. an ___favourable balance |
| 5. an ___legal contract | 15. an ___recoverable debt |
| 6. an ___expensive car | 16. an ___valid licence |
| 7. an ___regular | 17. an ___literate man |
| 8. an ___economic process | 18. an ___profitable method |

SECTION 3 READING AND DISCUSSION

20. What do you know about an electronic world? Read the statements given below and say if they are right or wrong. If the statements are not right, make the necessary corrections.

1. The information age hasn't changed the way we live.

2. Today's society is sometimes called the information society, because of the increasing use of computers.
3. The terms *information superhighway* and *the Internet* have the same meaning.
4. Telecommuting allows the option of working from anywhere at any time.
5. E-commerce customers always feel safe.
6. Nowadays many activities are being conducted using the Internet.

21. Read Text 9A “he Digital Era” and say if you are right or wrong. There is one statement for each paragraph. Discuss the answers with your classmates.

TEXT 9A

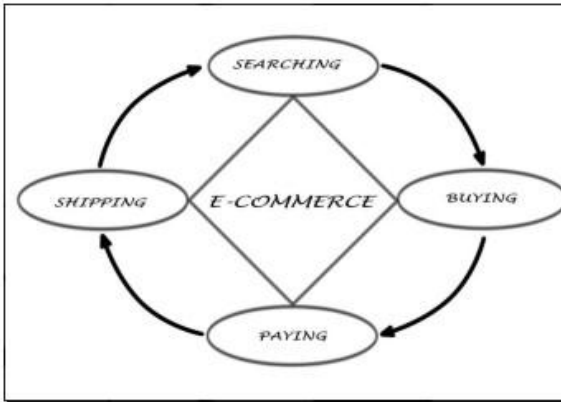
THE DIGITAL ERA

The modern world is an electronic world, and the increasing use of computers has brought society into what some refer to as the information age. This information age has introduced us to the concepts of electronic commerce or e-commerce, and of course to the electronic mail or e-mail. Over the last few years, developments in information technology and communication have changed the way that we live our lives. The way we work, the type of jobs we do, where we live, the way we learn, how we interact, and how we are entertained – all are changing as a result of the information revolution.

Today's society is sometimes called the information society, because exchanges of information – using modern communication technology such as the Internet – are central to everyday life. We live in an information age, where all sorts of activities, including economic, governmental, social, and educational, are being transformed by data exchange, together with the technology that makes them possible.

One aspect of this is the information superhighway. The term *information superhighway* is often used interchangeably with the term *the Internet*. But the information superhighway is more than just the Internet – it is the global collection of computer networks, including

the Internet, and communication links such as satellites, radio, cables, and wires that are used to exchange information. It is a giant web of communication channels, which is being used to transform the way we live, and especially, the way we work and conduct business. Barriers of time and place are being eroded, as people can exchange all sorts of data using information superhighway irrespective of distance. An example is the emergence of teleworking. By using the information superhighway, workers who would traditionally work in the office can work from home or from anywhere – as long as they have a computer



and the Internet connection.

Another example of the changing world of business is the emergence of electronic commerce (e-commerce).

Electronic commerce lets you carry out commercial transactions or activities online using your PC. E-commerce refers to such things as online banking, purchasing goods or services. In most cases, you have to produce your personal details and payment methods before you can complete a transaction online. E-commerce lets you buy goods and services at any time of the day, 7 days a week. You can buy a book, reserve a rental car or buy a plane ticket. You can also preview a movie or music CD online before buying it. As you can see, e-commerce offers you many ways to buy online. However, it is important to remember that always choose vendors who provide you with secure payment methods to prevent exposure to identity theft and fraud.

These days so many activities are being conducted using the Internet that new terms, prefaced by an *e*, are appearing to indicate that they are conducted electronically. E-commerce can also include business-to-business transactions, and any other business conducted using the Internet [B.H. Nwosu. *Introduction to Information and Communication Technology*].

22. Find in the text the paragraph describing the information about the information superhighway, read it aloud and translate it into Russian.

23. Which of the terms mentioned in the text would best describe the following?

1. The modern age regarded as a time in which information has become a commodity that is quickly and widely disseminated and easily available especially through the use of computer technology.
2. A telecommunications infrastructure or system used for wide-spread and usually rapid access to information.
3. A global network connecting millions of computers.
4. The use of telecommunication to work outside the traditional office or workplace.
5. Activities that relate to the buying and selling of goods and services over the Internet.

24. Complete the following sentences with details from the text.

1. This information age has introduced us _____.
2. ____ all are changing as a result of the information revolution.
3. We live in an information age _____.
4. Barriers of time and place are being eroded _____.
5. E-commerce offers you _____.
6. New terms, prefaced by an *e*, are appearing _____.

25. Locate the following details in the text. Give the line numbers.

1. In which lines does the author discuss the information society?
2. Where in the text does the author explain the meaning of a giant web of communication channels?
3. Where in the text does the author discuss the disadvantage of buying online?
4. At what point in the text does the author mention some types of business conducted using the Internet?

26. Explain the following references.

1. One aspect of *this* is the information superhighway.
What does the pronoun *this* refer to?
2. ... *it* is the global collection of computer networks...
What does the pronoun *it* refer to?
3. *You* can buy a book, reserve a rental car or buy a plane ticket.
What does the pronoun *you* refer to?
4. You can also preview a movie or music CD online before buying *it*.
What does the pronoun *it* refer to?
5. ...*they* are conducted electronically.
What does the pronoun *they* refer to?

27. Identify the sentences in the text that contain -ing forms. Read and translate them into Russian.

28. Find in the text some key words and expressions to speak about the digital world and retell the text in English.

29. Skim Text 9B “Videoconferencing” and try to understand what it is about and what information is known and new to you.

TEXT 9B

VIDEOCONFERENCING

Videoconferencing is the conduct of a videoconference by a set of telecommunication technologies which allow two or more locations to communicate by simultaneous two-way video and audio transmissions. Videoconferencing differs from videophone calls in that it is designed to serve a conference or multiple locations rather than individuals. It is an intermediate form of videotelephony, first deployed commercially in the United States by AT&T during the early 1970s as part of their development of Picturephone technology.

With the introduction of relatively low cost, high capacity broadband telecommunication services in the late 1990s, coupled with powerful computing processors and video compression techniques, videoconferencing usage has made significant inroads in business, education, medicine and media.

The core technology used in a videoconferencing system is digital compression of audio and video streams in real time. The hardware or software that performs compression is called a codec. Compression rates of up to 1:500 can be achieved. The resulting digital stream of 1s and 0s is subdivided into labeled packets, which are then transmitted through a digital network (ISDN – Integrated Service Digital Network, or IP). The use of audio modems in the transmission line allow for the use of POTS (Plain Old Telephone System) in some low-speed applications, such as videotelephony, because they convert the digital pulses to/from analog waves in the audio spectrum range.

The other components required for a videoconferencing system include: *video input* (a Web camera), *video output* (a computer monitor, a projector or television), *audio input* (microphones, a CD/DVD player, a cassette player, or any other source of PreAmp audio outlet), *audio output* (usually loudspeakers associated with the display device or telephone), *data transfer* (an analog or digital telephone network, LAN – Local Area Network, or the Internet), and *a computer* (a data processing unit that ties together the other components does the compressing and decompressing, and initiates and maintains the data linkage via the network).

There are basically two kinds of videoconferencing systems.

Dedicated systems have all required components packaged into a single piece of equipment, usually a console with a high quality remote controlled video camera. These cameras can be controlled at a distance to pan left and right, tilt up and down, and zoom. They became known as PTZ (pan-tilt-zoom) cameras. The console contains all electrical interfaces, the control computer, and the software or hardware-based codec. Microphones are connected to the console, as well as a TV monitor with loudspeakers and/or a video projector.

Desktop systems are add-ons (hardware boards) to normal PCs, transforming them into videoconferencing devices. A range of different cameras and microphones can be used with the board, which contains the necessary codec and transmission interfaces. Most of the

desktops systems work with the H.323 standard. Videoconferences carried out via dispersed PCs are also known as e-meetings.

People use a videoconference for education, business and community events. Students can learn about different cultures in real time, and go on virtual field trips without leaving home. Businesses use it for meetings and job interviews because it saves money and time in travelling. Libraries and town halls can use it to bring people together for community meetings and other special activities.

Videoconferencing over the public Internet is not reliable because the amount of data that you can send depends on bandwidth. Public telephone lines have a low bandwidth and usually give small video frames, poor picture quality and slow delivery. Broadband sends more information over the Internet at faster speeds but it is expensive.

Videoconferencing tips:

- keep your eyes on the Web cam to show you are interested;
- move slowly and talk in a strong, clear voice because of the small time delay in videoconferencing;
- wear dark or neutral colours as bright colours and patterns can affect picture quality [D. Demetriades. *Information Technology; Web-Opas*].

30. Answer the following questions.

1. What is videoconferencing?
2. When was it first introduced?
3. What technology is used in a videoconferencing system?
4. How does videoconferencing work?
5. What are the components of a videoconferencing system?
6. What specific features does a dedicated system have?
7. What is a desktop system?
8. What are the guidelines for having a videoconference?

31. Consider the following statements.

1. Videoconferencing differs from videophone calls.
Do you agree? Can you give your reasons?
2. Videoconferencing usage has made significant contributions to business, education, medicine and media.

Do you agree to that? What is really meant?

3. People don't use a videoconference for community events.

Do you agree? Can you express your opinion?

4. Videoconferencing over the public Internet is reliable.

Do you agree? Can you give your reasons?

32. Give a brief overview of the structure and contents of the text and retell it in English.

SECTION 4 SPEAKING

33. Practise the following dialogues.

Dialogue 1

Student Conference

A.: Who goes to a student conference?

B.: Most of the people who attend are either undergraduate or postgraduate students studying a discipline related to the subject of the conference. There are also always a number of speakers who may be either lecturers or professors from academic institutions. A number of other academics attend, either independently or to support their students.

A.: What do the participants do during the conference?

B.: The specifics of the day are shown in the conference programme but normally during the day they might attend the opening of the conference and an introductory lecture. Nearly all participants will do this. They also attend an oral presentation session. Oral presentations are made by the participants in sessions of 4 – 6 presentations, normally chaired by an expert in the field. The presentations are grouped according to the content. Each presenter is given 10 minutes to talk about their work, followed by five minutes to take questions from the audience. Then the participants attend a poster presentation session which allows a participant to display a poster of his or her work, whilst being present to answer any questions that the other participants may have. After lunch, they attend keynote lectures which are delivered by experts in their field. The lecture will have a theme,

and the speaker will use his or her knowledge and experience to present work and discuss issues on this theme. Other sessions might include workshops, seminars, question-and-answer sessions. These are all different formats for sharing ideas and listening to people who have some experience and expertise in a certain field.

A.: What should I wear?

B.: If you are presenting, you should look relatively smart and professional. Some presenters wear suits. Participants that are not presenting might wear slightly less formal clothes, but you should still present yourself in a professional way.

A.: When do I need to send my registration form?

B.: All dates, deadlines and guidelines are on the conference website. The deadline dates must be met, so try not to leave it to the last minute.

A.: How do I prepare for an oral or poster presentation?

B.: If you are doing an oral presentation, you will need to bring the presentation on a PowerPoint file on a memory stick. If you are doing a poster presentation, then remember that most printers take at least a week to print these, so be prepared.

A.: How are the presentations judged?

B.: A judging committee composing of experts will judge the presentations according to the published criteria.

A.: Who should I contact if I have any questions?

B.: Please address any questions you may have to the conference organizer [<http://www.bases.org.uk>].

Dialogue 2 **WebVisions Conference**

A.: I'm going to London on Monday. There is a conference there. It's called WebVisions.

B.: What is the schedule like?

A.: As soon as I arrive, the keynote speech begins.

B.: ... and after that?

A.: When the keynote speech ends, we'll have two hours for other presentations and an hour for discussions.

B.: Are you making any presentations?

A.: No, I'm just attending this conference.

B.: Is Sam Wilson presenting?
 A.: No, but he's giving a workshop on Wednesday.
 B.: When are you coming back?
 A.: I'm flying back on Thursday morning.
 B.: Remember you are meeting with Trevor on Friday morning at nine o'clock sharp!
 A.: Oh, thanks! I forgot about that.
 B.: Have a good trip!

34. Fill in the missing remarks of Dialogue 3. Follow the instructions given in brackets and then practise the dialogue.

Dialogue 3
Videoconference

Operator: Good morning. Welcome to the Videoconference _____ (*give the name of the conference you are interested in*). At this time, all participants are in listen-only mode, but the floor will be open for your questions following the introductory remarks. I'd now like to turn the conference over to Dr. Fielding, Head of the IT Department of London University. Please go ahead, Dr. Fielding.

Dr. Fielding: Good morning. Thanks for joining us. Dr. Brown, _____ and Dr. Mason _____ (*indicate their posts*) representing _____ (*indicate the name of a university*) are speaking today. Please note that the information you'll hear during our discussion today may consist of _____ (*indicate the problems to be reported*). To view the supporting slides while listening, log on to _____ (*indicate website address*). With that, I'll turn the call over to Dr. Brown.

Dr. Brown: Thank you, Dr. Fielding. It's good to be on this call to report _____ (*give the details of his report*).

Dr. Mason: In closing, we believe these outstanding results reflect _____.

Dr. Fielding: With that, I'd like to open the call to questions. Please limit yourselves to one question only.

Operator: Our first question will come from the line of Dr. Brooks with (give the name of a university).

Dr. Brooks: _____? (*put a question*)

Dr. Brown: _____ (*give an answer to it*).

Operator: The next question comes from Dr. Newman with (*give the name of a university*).

Dr. Newman: _____?

Dr. Mason: _____.

Operator: Next question from Dr. Corbin with _____ (*give the name of a university*).

Dr. Corbin: _____?

Dr. Brown: _____.

< ... >

(*continue a question-and-answer session*)

Dr. Fielding: Time for just one final question.

Operator: And that will come from Dr. Curler with (*give the name of a university*).

Dr. Curler: I'd like to ask you, Dr. Brown, about _____.

Dr. Brown: _____.

Dr. Fielding: Thanks very much, Dr. Curler and thanks to everyone. A replay of today's conference will be available as a webcast on _____ (*indicate website address*) and via telephone. The number for the telephone replay is 979-424-322 and the passcode is 6348994. Replays will be available at 5.00 p.m. today.

Operator: Ladies and gentlemen, this concludes today's presentation. We thank everyone for your participation and have a wonderful day.

35. Using the above dialogues as a guide, make up dialogues of your own.

Situations

You meet your classmate/colleague and talk about:

- a) the schedule of the conference you are going to attend;
- b) your paper to be presented at the conference;
- c) speakers/presenters at the conference to be held at your university.

36. Tell your classmates about your experience in participating in student conferences.

SECTION 5 LISTENING

37. Listen to the Text “Mobile Phone” and answer the questions that follow.

1. What is a mobile phone used for?
2. What was the function of the first mobile phone?
3. What was it like?
4. What specific features did MMS-capable devices have?
5. What is a smartphone?
6. What are the characteristics of today’s mobile phones?
7. How does a mobile phone operate?

38. Check your answers with your classmates and Tapescript 9A. Look up the words you do not know in your dictionary.

39. Retell the text about mobile phones.

40. Listen to the Text “Netiquette”. Which of the statements are true and which are false?

1. The online community does not have its own culture.
2. Internet behaviour is called Netiquette.
3. Culture and Netiquette are interconnected.
4. Netiquette only includes good spelling and grammar.
5. The Golden Rule is *Treat different people in different ways*.
6. The invasion of people’s privacy is one of the rules of Netiquette.

41. Check your answers with your classmates and Tapescript 9B. Look up the words you do not know in your dictionary.

42. Retell the text about Netiquette.

SECTION 6 WRITING

An abstract is a brief summary of a research article, thesis, review, conference proceeding or any in-depth analysis of a particular subject or discipline, and is used to help the reader quickly ascertain the purpose of the paper. An abstract appears at the beginning of a manuscript, acting as the point-of-entry for any given academic paper.

43. Read the information about some specific features of writing an abstract for a research paper.

The key elements to be included in the abstract.

- Background: A simple opening sentence or two placing the work in context.
- Aims: One or two sentences giving the purpose of the work.
- Method(s): One or two sentences explaining what was (or will) be done.
- Results: One or two sentences indicating the main findings (or what you hope to accomplish with the project).
- Conclusions: One sentence giving the most important consequence of the work – What do the results mean? How will they be used?

Words of advice:

1. For the first draft, don't worry about length. Just try to cover all the important components that are required in the abstract. Use all the information that you highlighted and identified as you read through the article.
2. Take a word count before you begin to edit.
3. Begin editing by deleting words, phrases and sentences that are less important or provide more explanation than necessary.
4. Look for places where sentences can be combined to omit extra words or condense ideas.
5. Delete unnecessary background information.
6. Do not use jargon, abbreviations, direct quotes or citations.
7. Avoid writing in the first person (*I*). Rather than saying, "In this essay I discuss...", try a more formal approach by starting your abstract with an opening similar to:
 - This paper discusses the effects of
 - This paper reports on

- Specifically, this paper investigates
 - This article examines how
 - The present paper attempts to answer the question
8. Write to the required word count.

44. Read some examples of abstracts.

a)

Improving Mobile Web Navigation Using N-Grams Prediction Models

*H. Paul, N. Shetty
Cleveland University, USA*

Abstract

The present paper studies the use N-gram models for improving Web navigation for mobile users. N-gram models are built from Web server logs to learn navigation patterns of mobile users. They are used as prediction models in an existing algorithm which improves mobile Web navigation by recommending shortcuts. The experiments on two real data sets show that N-gram models are as effective as other more complex models in improving mobile Web navigation.

b)

The Development of Mobile Collaborative Learning Application Using Android

*K.B. Lee, R. Salman
University of Minnesota, USA*

Abstract

Learning by means of mobile phones is becoming a new approach towards education, and it is unique in its own way and offers learning opportunities anywhere and anytime. Mobile Collaborative Learning (MCL) has been acquiring more importance in educational environment as one type of mobile learning application. This paper

introduces the theoretical and technical foundations for designing and developing an effective MCL environment as well as describing a new approach for building a learning application towards mobile technology. The proposed prototype will be designed and constructed using the Android operating system with a suggestive infrastructure for this type of system.

c)

High-Performance Computing with Quantum Processing Units

*K.A. Britt, T.S. Humble
Michigan University*

Abstract

The prospects of quantum computing have driven efforts to realize fully functional quantum processing units (QPUs). Recent success in developing proof-of-principle QPUs has prompted the question of how to integrate these emerging processors into modern high-performance computing (HPC) systems. The paper examines how QPUs can be integrated into current and future HPC system architectures by accounting for functional and physical design requirements. The study identifies two integration pathways that are differentiated by infrastructure constraints on the QPU and the use cases expected for the HPC system. This includes a tight integration that assumes infrastructure bottlenecks can be overcome as well as a loose integration that assumes they cannot. The results indicate that the performance of both approaches is likely to depend on the quantum interconnect that serves to entangle multiple QPUs.

45. Use the Internet to find some articles on information technology you are interested in. Following the above instructions, practise writing abstracts of these articles or the texts given in Unit 9 or some other texts of the course book.

UNIT 10



COMPUTER SECURITY

Section 1. Grammar Practice:

Objective and Subjective Infinitive Constructions.

For-to Infinitive Construction.

Section 2. Vocabulary and Word Study:

Revision: Suffixes.

Section 3. Reading and Discussion:

Text 10A. Data Security.

Text 10B. Personal Data Protection.

Section 4. Speaking:

Computer Security.

Section 5. Listening:

10A. Password Protection.

10B. How to Prevent Hacking.

Section 6. Writing:

A Summary Essay.

SECTION 1 GRAMMAR PRACTICE

1. Translate the sentences paying special attention to the use of the Complex Object (*See Grammar Reference 10.1.*).

1. Do you want her to download this program from the Internet?
2. We heard him report on the results of his experiments.
3. Did you see him open that message?
4. We consider I. Newton to be one of the greatest mathematicians of all times.
5. We expect her to carry her laptop on the plane and work on it during the flight.
6. I saw him write a report on the computer this morning.
7. We believe them to belong to a great chat forum.
8. We know World Wide Web to be a huge por-

tion of the Internet containing linked documents, called pages. 9. Our teacher would like this work to be done in time. 10. Her parents made her do her homework. 11. I saw him play computer games. 12. They expect us to have done that job.

2. Insert the particle *to* before the Infinitive where required. Translate the sentences into Russian.

1. The students thought the class ____ last for two hours. 2. They saw the lights ____ come on. 3. I would like you ____ meet a friend of mine. 4. They made us ____ do this hard job. 5. We heard the teacher ____ explain the grammar rules. 6. They considered themselves ____ be right. 7. We expect their production ____ increase. 8. She noticed him ____ run away from the house. 9. I tried to make him ____ understand this grammar rule. 10. Some of the delegates wanted the reports ____ be translated into Russian. 11. I watched the ____ play football until it started to rain.

3. In the sentences below identify the predicate and the Complex Subject (See *Grammar Reference 10.2.*). Translate these sentences into Russian.

1. He doesn't seem to know how to use a scanner. 2. The code written by a programmer is known to be the source code, and the compiled code is known to be the object code. 3. This e-mail is sure to have been sent. 4. My friend happened to know some high level programming languages. 5. This method appears to be used universally. 6. His knowledge of the subject proved to be deep. 7. He seems to have lost a lot of data. I wonder if his computer has a virus. 8. He is likely to email his friends almost every day. 9. This computer program is considered to test English grammar. 10. A word processing program is said to have been used in this work. 11. The second-generation computers were reported to use transistors. 12. He is expected to print out two copies – one for me and one for my boss. 13. Computers are sure to find wide application in education. 14. He seems to be checking his e-mail now.

4. Transform the following sentences according to the model. Use the Complex Subject. Translate the sentences into Russian.

Example:

It is said that she writes about computer problems. –

She is said to write about computer problems.

1. It is sure that the processor is operating now. 2. It is believed that some computers and programs are more user-friendly than others. 3. It is supposed that electronic computers use binary numerals. 4. It is likely that this message destroys all your e-mail contacts. 5. It seems that he has found some interesting websites to tell the class about. 6. It is known that our class is going to store all the information from our English lessons on computer. 7. It is assumed that spreadsheets create many different types of charts and graphs. 8. It is said that data entry operators enter data every day. 9. It is expected that the invention of computers will be spoken of at the next lecture. 10. It is known that smart cards look similar to plastic cards with a magnetic stripe.

5. Read and translate the following sentences paying attention to the For-to Infinitive Construction (See Grammar Reference 10.3.).

1. It is difficult for him to deal with this large number of files. 2. I'd like to put forward a few suggestions for you to think about. 3. The road is too busy for the children to cross safely. 4. Unfortunately the table was too small for all of to sit round. 5. It is important for advertisements to tell the truth. 6. It is difficult for unskilled people to find work these days. 7. There are regular shows for you to enjoy. 8. It wasn't loud enough for everyone to hear. 9. It would be a mistake for my friend to do it. 10. It was good for him to go swimming.

6. Rewrite the sentences using the For-to Infinitive Construction.

Example:

She can't come. (It's impossible...) –

It's impossible for her to come.

1. He normally stays up late on Sundays. (It's normal...) 2. Can Mary come to the meeting? (Is it possible...?) 3. Pete shouldn't go to Africa. (It's a bad idea...) 4. He isn't usually late. (It's unusual...) 5.

The meeting needn't start before seven. (There is no need...) 6. I'll be happy if you take a holiday. (I'll be happy...) 7. The postman ought to come. (It's time...) 8. I want the children to go to a good school. (I'm anxious...) 9. Nick shouldn't change his job just now. (It would be a mistake...) 10. The car really should have regular services. (It's important...)

SECTION 2 VOCABULARY AND WORD STUDY

7. Read and memorize the active vocabulary to the texts of Unit 10 and translate the given sentences.

1. **affect** [ə'fekt] *v* – действовать, воздействовать, влиять
Your opinion *will not affect* my decision.

2. **appear** [ə'piə] *v* – показываться, появляться; казаться, производить впечатление

appearance [ə'piərəns] *n* – внешний вид; появление

Modern contact lenses first *appeared* in the 1940s. It *appears* there has been a mistake. Russian cities are growing and their *appearance* is changing. *The appearance* of new materials resulted in great buildings erected during the following centuries.

3. **attempt** [ə'tempt] *n v* – попытка; проба; пытаться, делать попытку

I passed my test at/in the first *attempt*. I *will attempt* to answer all your questions.

4. **authentication** [ɔːθenti'keɪʃ(ə)n] *n* – аутентификация, подтверждение прав доступа (сервис в системе контроля доступа); подтверждение подлинности; опознавание

User *authentication* is often performed with passwords.

5. **aware** [ə'weə] *adj* – знающий, осведомленный

be aware (of) – знать, быть осведомленным в чем-л.

She is one of the most *aware* people I know. He *was aware of* the problem.

6. **cancel** ['kænsəl] *v* – отменять; аннулировать

I'm afraid the meeting *has been cancelled*.

7. **cause** [kɔːz] *n v* – причина; вызывать, являться причиной

result [ri'zʌlt] *v n* – результат, исход; кончатся, иметь результатом (**in**); следовать, происходить в результате (**from**)

Ice on the road was *the cause* of the accident. Unsatisfactory organization of work *causes* delays. These problems are *the result* of bad management. The grain shortage *will result in* price increases. We will pay for any damage which *results from* our experiments.

8. **conceal** [kən'si:l] *v* – скрывать; укрывать

The camera *is* small and easily *concealed*.

9. **damage** ['dæmɪdʒ] *n v* – повреждение, разрушение, дефект; повреждать, разрушать, наносить ущерб

At the moment it is difficult to assess the extent of *the damage*. The building *was* badly *damaged* by fire.

10. **encrypt** [in'kript] *v* – кодировать, шифровать (с целью защиты информации от несанкционированного просмотра или использования, особенно при передаче по линиям связи)

encryption [in'kriptʃ(ə)n] *n* – кодирование, шифрование

full-disk encryption (FDE) – полное шифрование диска, полнодисковое шифрование

Electronic information *was encrypted* and can only be used if decoded. Firewalls, data *encryption* and other standard security mechanisms protect the network. *Full-disk encryption (FDE)* is especially useful for laptops and other small computing devices that can be physically lost or stolen.

11. **flaw** [flɔ:] *n* – дефект, недостаток; изъян

Flaws have appeared in the new version of the software.

12. **gain** ['geɪn] *v* – получать, приобретать; добиваться

gain access (to) – получить доступ (к)

What do you hope *to gain* from the course? She quickly *gained* experience. The tax inspector *gained* complete *access to* the company files.

13. **idle** ['aɪdl] *adj* – неработающий; простаивающий, бездействующий; резервный; свободный

The pumps are standing *idle*. The factory has stood *idle* for over a year.

14. **lead** [li:d] (**led**) *v* – руководить, возглавлять, управлять

lead to *v* – приводить (к чему-л.), вызвать (что-л.), быть причиной (чего-л.), иметь результатом

I think we have chosen the right person *to lead* the expedition.
Eating too much sugar can *lead to* health problems.

15. **malware** ['mælwɛə] *n* – вредоносное программное обеспечение (средство)

That was the threat posed by *malware*.

16. **password** ['pɑ:swə:d] *n* – пароль

He used *a password* before operating a computer system.

17. **regarding** [ri'ga:diŋ] *prep* – относительно, касательно, о

regardless (of) [ri'ga:dlis] *phr prep* – независимо от, не считаясь, не принимая во внимание

Call me if you have any problems *regarding* your research work. This job is open to all, *regardless of* previous experience.

18. **safeguard** ['seifga:d] *n v* – предохранительное устройство; защитная мера; предохранять, защищать, охранять

The disk has built-in *safeguards* to prevent errors. The new card *will safeguard* the company against fraud. *Safeguarding* your computer requires protecting your hardware against damage or theft.

19. **scramble** [skræmbəl] *v* – скремблировать (шифровать путем перестановки и инвертирования участков спектра или групп символов); зашифровывать, шифровать

The encryption algorithm uses security mechanisms like algorithms *to scramble* data into unreadable text.

20. **spread (spread)** [spred] *n v* – распространение, протяжение, простираение; распространяться, простираться

widespread *adj* – широко распространенный

The spread of new technologies often depends on the availability of older ones. The use of computer technology *spread* into all fields of work. The plan received *widespread* support.

8. Match the pairs of synonyms from A and B and translate them.

A

1. emergence
2. familiar with
3. finding
4. notwithstanding
5. extensive
6. concerning

B

- a) regardless
- b) cause
- c) widespread
- d) encryption
- e) result
- f) damage

- | | |
|-------------|---------------|
| 7. reason | g) appearance |
| 8. harm | h) flaw |
| 9. encoding | i) regarding |
| 10. error | j) aware |

9. Match the verb on the left with a suitable item on the right. Use each item once only.

- | | |
|-------------|---------------------------|
| 1. make | a) a flaw |
| 2. perform | b) in damage |
| 3. result | c) to problems |
| 4. encrypt | d) access (to) |
| 5. find | e) a password |
| 6. gain | f) user authentication |
| 7. stand | g) against malware |
| 8. lead | h) an attempt |
| 9. enter | i) idle |
| 10. protect | j) electronic information |

10. Make the following sentences complete by translating the words and phrases in brackets.

1. The Internet only came into (широко распространенный) public use in the 1990s. 2. We are exploring a variety of options (качественно) this issue. 3. (Полнодисковое шифрование) works by automatically converting data on a hard drive into a form that cannot be understood by anyone who doesn't have the key to "undo" the conversion. 4. This is my second (попытка) at the exam. 5. There are many (предохранительные устройства) built into the system to prevent fraud. 6. (Вредоносное программное обеспечение) is the software such as a virus that is designed to (повреждать) or destroy information on a computer. 7. Sitting hunched over a computer all day can (вызывать) problems. 8. She was forced to (отменять) her (появление) as a keynote speaker at the event. 9. The extra power stations are (неработающий) idle when demand is lower. 10. (Независимо от) of what you think, I believe my friend is the best person for the job.

11. Find the best verb in the box to complete each of the sentences.

scramble	cancel	conceal	spread	appear
affect	damage	safeguard	gain	lead

1. A computer virus _____ rapidly through his e-mail systems. 2. You need to _____ your computer against viruses. 3. This will _____ to trouble in the future. 4. When creating demo applications, there is often the need to _____ the data so that sensitive information is not available to the users. 5. We all managed to _____ a lot from the experience. 6. It is extremely unlikely for a virus to physically _____ a hard disk. 7. Why did you decide to _____ your true identity? 8. Try not to let his problems _____ you too much. 9. They had to _____ cancel tomorrow's game because of the bad weather. 10. Comets _____ at predictable times.

12. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Practice *n*, protect *v*, column *n*, intellectual *adj*, analytics *n*, interest *n*, emphasis *n*, mechanism *n*, scheme *n*, decode *v*, session *n*, compromise *v*, infection *n*, identify *v*, photograph *n*, registration *n*, profile *n*, fundamental *adj*, isolation *n*, administration *n*, infect *v*.

13. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Hardware mechanisms, a security feature, software components, a one-time password, a malware infection, a security hole, a reliable backup solution, personal data protection, a national identification number, a vehicle registration plate number, a credit card number, data collection, business interests, a host computer, Trojan horse and worm programs, an e-mail address book, a user's e-mail contacts.

14. Read the text and use the word given in brackets to form a word which will fill the blank.

A (compute) _____ (1) virus is a program or piece of code that is loaded onto your (compute) _____ (2) without your (know) _____ (3) and runs against your wishes. Viruses can also replicate themselves. All (compute) _____ (4) viruses are man-made. A simple virus that can make a copy of itself over and over again is (relative) _____ (5) easy to produce. Even such a simple virus is (danger) _____ (6) because it will (quick) _____ (7) use all available memory and bring the system to a halt. An even more (danger) _____ (8) type of virus is one capable of transmitting itself across networks and bypassing (secure) _____ (9) security systems. Since 1987 many antivirus programs have become available. These programs (periodical) _____ (10) check your (compute) _____ (11) system for the best-known types of viruses. Some people distinguish between general viruses and worms. A worm is a special type of virus that can replicate itself and use memory, but cannot attach itself to other programs.

SECTION 3 READING AND DISCUSSION

15. Before you read Text 10A “Data Security”, discuss the following questions with your classmates or teacher.

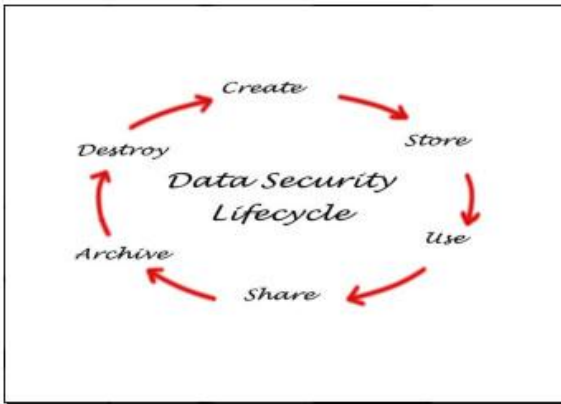
1. What is the purpose of data security?
2. Why has there been a huge emphasis on data security of late?
3. Is the data really secure?
4. What does the security mechanism of encryption use?
5. What does this technology offer?
6. What is full disk encryption characteristic of?
7. What does authentication allow you to do?
8. How does it work?
9. What is a malware infection?
10. Why is a reliable backup solution important for data security?

16. Read the text to find out if your answers are right or wrong.

TEXT 10A

DATA SECURITY

Data security is the practice of keeping data protected from corruption and unauthorized access. The focus behind data security is to ensure privacy while protecting personal or corporate data. Data is the raw form of information stored as columns and rows in our databases, network servers and personal computers. This may be a wide range of information from personal files and intellectual property to market



analytics and details intended to top secret. Data could be anything of interest that can be read or otherwise interpreted in human form. However, some of this information is not intended to leave the system. The unauthorized access of this data

could lead to numerous problems for the larger corporation or even the personal home user.

There has been a huge emphasis on data security as of late, largely because of the Internet. There are a number of options for locking down your data from software solutions to hardware mechanisms. Computer users are certainly more conscious these days, but is your data really secure? If you are not following the essential guidelines, your sensitive information just may be at risk.

Encryption has become a critical security feature for thriving networks and active home users alike. This security mechanism uses mathematical schemes and algorithms to scramble data into unreadable text. It can only be decoded or decrypted by the party that possesses the associated key. Full-disk encryption (FDE) offers some of the

best protection available. This technology enables you to encrypt every piece of data on a disk or hard disk drive. Full disk encryption is even more powerful when hardware solutions are used in conjunction with software components.

Authentication is another part of data security that we encounter with everyday computer usage. Just think about when you log into your e-mail or blog account. That single sign-on process is a form authentication that allows you to log into applications, files, folders and even an entire computer system. Once logged in, you have various given privileges until logging out. Some systems will cancel a session if your machine has been idle for a certain amount of time, requiring that you prove authentication once again to re-enter. The single sign-on scheme is also implemented into strong user authentication systems. However, it requires individuals to log in using multiple factors of authentication. This may include a password, a one-time password, a smart card or even a fingerprint.

Data security would not be complete without a solution to back-up your critical information. Though it may appear secure while confined away in a machine, there is always a chance that your data can be compromised. You could suddenly be hit with a malware infection where a virus destroys all of your files. Someone could enter your computer and thief data by sliding through a security hole in the operating system. Perhaps it was an inside job that caused your business to lose those sensitive reports. If all fail, a reliable backup solution will allow you to restore your data instead of starting completely from scratch [*Spam Laws. What is Data Security?*].

17. Find in the text the paragraph describing the information about encryption, read it aloud and translate it into Russian.

18. Which of the terms mentioned in the text would best describe the following?

1. The conversion of electronic data into another form which cannot be easily understood by anyone except authorized parties.
2. A type of program designed to harm a computer or device.
3. Protective digital privacy measures that are applied to prevent unauthorized access to computers, databases and websites.

4. The process of identifying an individual, usually based on a username and password.
5. Pieces of information, usually formatted in a special way.

19. Complete the following sentences with details from the text.

1. The unauthorized access of the data could lead to _____.
2. Your sensitive information just may be at risk _____.
3. Full disk encryption is more powerful when _____.
4. Some systems will cancel a session if _____.
5. Someone could enter your computer and thief data _____.

20. Locate the following details in the text. Give the line numbers.

1. In which lines does the author discuss what data is?
2. Where in the text does the author explain the meaning of data security?
3. Where in the text does the author discuss the advantages of encryption?
4. At what point in the text does the author mention some forms of authentication?

21. Explain the following references.

1. *It* can only be decoded or decrypted by the party that possesses the associated key.
What does the pronoun *it* refer to?
2. *This* technology enables you to encrypt every piece of data...
What does the pronoun *this* refer to?
3. *It* requires individuals to log in using authentication.
What does the pronoun *it* refer to?
4. *This* may include a password, a smart card or a fingerprint.
What does the pronoun *this* refer to?
5. ...*it* may appear secure while confined away in a machine...
What does the pronoun *it* refer to?

22. Identify the sentences in the text that contain *-ing forms* and *infinitives*. Read and translate them into Russian.

23. Find in the text some key words and expressions to speak about data security and retell the text in English.

24. Skim Text 10B “Personal Data Protection” and try to understand what it is about and what information is known and new to you.

TEXT 10B

PERSONAL DATA PROTECTION

The issues of privacy and personal data protection have frequently been in the news in recent years, especially in the context of social networking, consumer profiling by online advertising companies and cloud computing. Roughly speaking, personal data means any kind of information (a single piece of information or a set of information) that can personally identify an individual or single them out as an individual. The obvious examples are somebody’s name, address, national identification number, date of birth or a photograph. A few perhaps less obvious examples include vehicle registration plate numbers, credit card numbers, fingerprints, IP address (e.g. if used by a person rather than a device, like a web server), or health records.

It also has to be noted that personal data is not just information that can be used to identify individuals directly, e.g. by name – it is enough if a person is “singled out” from among other people using a combination of pieces of information or other “identifiers”. For instance, online advertising companies use tracking techniques and assign a person a unique identifier in order to monitor that person’s online behaviour, build their “profile” and show offers that could be relevant for this person. Such an advertising company does not need to know that the person in question is a John Smith – it is enough to know that user 12345678 repeatedly visits certain websites, “likes” certain websites, etc. In this case such a unique identifier is considered personal data, along with all the information concerning this user collected (browsing history, “likes”, etc.) by the advertising company.

With the amount of data growing exponentially, there is little doubt that it will change the world in the coming years in ways that we can scarcely imagine today. Processing reliable data can help discover certain trends, which can contribute to reducing the waste of resources and improve policy-making. Data can be used to put people under surveillance, in breach of their fundamental rights. In an interconnected electronic world, individual pieces of data can no longer be regarded in isolation. With data being stored for long periods, your online behaviour as a teenager might affect your professional career later. Citizens are aware that they are being constantly “watched” by public authorities and private entities. This challenges their trust in both, particularly as electronic data collection is done invisibly. This growing lack of trust is damaging for democracy and for business.

This is why the protection of personal data is so crucial. Safeguards are necessary to give citizens and consumers trust in administration, business and other private entities. If data is the new currency, we need to learn the painful lessons of the banking industry – weak regulation and excessive faith in the market will lead to catastrophic loss of trust, with consequences for every single citizen.

A strong and intelligent approach to creating a value-driven set of European norms and principles on data collection, processing and sharing, together with adequate rules protecting citizens against short-sighted (though understandable) business interests is both necessary and inevitable. In the long run, citizens and democratic societies as well as businesses can only profit from strong safeguards [*An Introduction to Data Protection*].

25. Ask your classmates:

a) why the issues of privacy and personal data protection have become very important in recent years; b) what personal data is; c) whether personal data can be used to identify individuals directly; d) why individual data can no longer be regarded in isolation; e) why an intelligent approach to creating a value-driven set of European norms and principles on data collection is necessary.

26. Complete the sentences choosing the best variant corresponding to the contents of Text 6B.

1. The examples of personal data are ...
 - a) data to be processed.
 - b) data belonging to customers.
 - c) credit card numbers and somebody's date of birth.
2. Online advertising companies use tracking techniques and assign a person a unique identifier in order to know...
 - a) that person's name.
 - b) that person.
 - c) that person's browsing history.
3. Your online behaviour might affect...
 - a) the processing of reliable data.
 - b) your professional career.
 - c) the improvement in your company's policy-making.
4. The personal data collected can be used to...
 - a) put people under surveillance.
 - b) contribute to reducing the waste of resources.
 - c) damage business.
5. Safeguards are necessary to give people trust in ...
 - a) personal relationships.
 - b) trust in private matters.
 - c) professional relationships.

27. Identify the topic of each paragraph of the text and retell it in English.

SECTION 4 SPEAKING

28. Answer the following conversation questions about computer security and personal data protection.

1. Why is computer security so important?
2. Do you think your computer is becoming less or more secure?
3. What can you do to enhance your computer security?
4. Do you have many passwords? Do you have any tricks for remembering them?
5. When do you use your passwords?

6. How secure are they?
7. Why is it very important not to give out personal information on the Internet?
8. How do you maintain your privacy on the Internet?
9. How can using social networking sites invade your privacy?
10. What are your privacy settings on Facebook?
11. Do cookies on your PC pose a threat to privacy?
12. If you give your personal information to a website, do you think that they will always keep it private?
13. What computer viruses do you know?
14. Have you ever caught a virus over the Internet?
15. How do you protect your computer from being infected with viruses?
16. How safe is e-mail?
17. Have you ever received a computer virus from e-mail?
18. How much spam a week do you receive? Have you ever answered a spam e-mail?
19. What do you know about hacking?
20. Why do you think hackers do what they do?
21. Do you think hackers add to new technology developments?
22. Are you worried someone could hack into your computer? What could you lose?
23. Do you always download security updates to protect your computer from hackers?
24. Do you think large companies fear hackers?

29. Make up dialogues of your own using the above questions or your answers to them. Act these dialogues.

SECTION 5 LISTENING

30. Listen to the Text “Password Protection” and answer the questions that follow.

1. What tables do most password schemes use?
2. How should password lists be stored?
3. Who is permitted to access a company database?

4. What do common rules regarding passwords include?
5. Why must users ensure their password is kept confidential?
6. How can passwords be protected?

31. Check your answers with your classmates and Tapescript 10A. Retell the text.

32. Listen to the Text “How to Prevent Hacking”. As you listen, make notes under the following headings.

1. The ways of computer hacking.
2. The steps to safeguard a computer.
3. Software updates.
4. The installation of a firewall.
5. The regular change of passwords.
6. Downloading antivirus software.

33. Check your answers with your classmates and Tapescript 10B. Look up the words you do not know in your dictionary.

34. Retell the text about computer hacking.

SECTION 6 WRITING

The purpose of a *summary essay* is to convey to others an understanding of a text you have read. Thus for your readers, your summary essay functions as a substitute for the text that you are summarizing. An important feature of the summary essay is its fidelity to the text; you must represent your source accurately and comprehensively, with as little of your own interpretation as possible.

35. Read the information about some specific features of writing a summary essay of a text.

A summary essay should be organized so that others can understand the text or evaluate your comprehension of it. The following format works well:

1. The introduction (usually one paragraph) provides:

- (i) the title of the text;
- (ii) the name of the author of the text;
- (iii) the title of the journal/book in which the text was published;
- (iv) the place and year of publication;
- (v) a one-sentence thesis statement expressing the main idea of the source.

The introduction should not offer your own opinions or evaluation of the text you are summarizing.

2. The body of a summary essay (one or more paragraphs).

This paraphrases and condenses the original piece. In your summary essay, be sure that you:

- (i) include important data but omit minor points;
- (ii) include one or more of the author's examples or illustrations (these will bring your summary to life);
- (iii) do not include your own ideas, illustrations, metaphors, or interpretations: you are simply repeating what the source text says, in fewer words and in your own words.

3. The conclusion gives:

- (i) a one-sentence summary of the entire text;
- (ii) your opinion of the text.

36. Read and learn the following linking words and phrases that are useful for writing a summary essay.

THE STRUCTURE OF A SUMMARY ESSAY		LINKING WORDS AND PHRASES
INTRODUCTION	<p>1. The title of the text.</p> <p>2. The author of the text, when and where the text was published.</p> <p>3. The main idea of the text.</p>	<p>The text is headlined ...</p> <p>The text is titled ...</p> <p>The headline of the text I have read is ...</p> <p>The author of the text is ...</p> <p>The text is written by ...</p> <p>It is (was) published in ...</p> <p>It is (was) printed in ...</p> <p>The text deals with (the problem of)</p> <p>The main idea of the text is ...</p> <p>The text touches upon the issue of ...</p> <p>The extract from the book is about ...</p> <p>The text is concerned with ...</p> <p>The article is devoted to ...</p> <p>The text centers round the problem of ...</p> <p>The purpose of the text is to give the reader some information (data) on ...</p> <p>The problem of the text is of great importance ...</p>
BODY	<p>4. The contents of the text. Some facts, data, figures.</p>	<p>The author starts by telling the author that ...</p> <p>It is clear from the text that ...</p> <p>The author writes (states, stresses, thinks, points out) that ...</p> <p>The text describes ...</p> <p>According to the text ...</p> <p>The text further says that ...</p> <p>Further the author reports (says) that</p> <p>One of the main problems to be singled out is ...</p> <p>Great importance is also attached to</p> <p>It should be noted that ...</p> <p>It must be mentioned that ...</p> <p>Judging from the author's point of view ...</p> <p>Among the other problems the text raises the problem of ...</p>
CON- CLU-	<p>5. A summarising statement.</p>	<p>In conclusion ...</p> <p>The author comes to the conclusion that ...</p>

		To sum it up ... In summary ... Summing the text up ... On the whole ... Having analysed the information it is possible to say ... All the things considered we can come to the conclusion that ... I found the text interesting (important, dull, of no value, too hard to understand ...)
	6. Your opinion of the text.	

37. Following the above instructions, practise writing summary essays of the texts given in the Unit or in the Supplementary Reading Section of the course book. Remember to use the linking words and phrases. Present the summary essays to the class and discuss them.

UNIT 11



MULTIMEDIA

Section 1. Grammar Practice:

Conditional Sentences. Relative Clauses.

Section 2. Vocabulary and Word Study:

Revision: Suffixes.

Section 3. Reading and Discussion:

Text 11A. Understanding Multimedia.

Text 11B. Multimedia Presentation Software.

Section 4. Speaking:

Making a Research Presentation.

Section 5. Listening:

11A. Rich Media.

11B. Hypermedia.

Section 6. Writing:

A Presentation.

SECTION 1 GRAMMAR PRACTICE

1. Read and translate the following types of conditional sentences (See *Grammar Reference 11.1.*).

a) Real conditionals

1. You will lose all your work if the computer crashes. 2. My report will be ready tomorrow if I have all the necessary data. 3. You won't have access to the Internet if your computer isn't online. 4. If Andrew studies hard, he will pass his exam. 5. If you don't work hard, you won't master English. 6. You won't solve the problem if you don't have enough information. 7. If you follow his advice, you will ensure that no matter what your degree is you can be confident that you too will find a great job once you graduate. 8. If you apply for a job that is related to your degree, you will need technical skills related

to the area of work. 9. You will never get well if you don't give up smoking. 10. If I stay here, I will take part in your work.

b) Unreal conditionals referring to the present and future

1. If your presentation talk weren't too long, you wouldn't have to cut out some material to get it to fit into the time limit. 2. If Mary knew his e-mail address, she would write to him. 3. My friend would help them if he had time. 4. Jane would surf the Internet and go to lots of sites if she had enough spare time. 5. If he were here, he would do that job. 6. He wouldn't make so many mistakes in his test paper if he were present at the last class. 7. We would do our best to show our skills if we were given this job to do. 8. If he weren't ill, he would finish his project in time. 9. If you were in my position, what would you do? 10. If I knew your password, I would be able to use your computer.

c) Unreal conditionals referring to the past

1. Nick would have attended the meeting if he had been told about it yesterday. 2. Everything would have been settled a week ago if it had gone according to the plan. 3. If we had installed the new equipment, we would have become more competitive. 4. If you had had more time at your disposal last month, they would have asked you to take part in that conference. 5. If sufficient data had been collected, a more definite solution could have been obtained. 6. If I had had a camera, I would have taken some photographs. 7. He would have made a presentation if he had been given enough time. 8. He could have made that discovery earlier if he had had better conditions for conducting his research. 9. If he had known his mistakes, he would have corrected them. 10. If the management of the plant had applied effective methods last year, the production level would have certainly increased.

2. Read and translate the following conditional sentences paying attention to inversion (*See Grammar Reference 11.2.*).

1. Had they helped us, the research programme would have been realized. 2. Were I in the city, I would attend his lecture. 3. Had he pointed out all the drawbacks, we would have found the ways to solve the problem. 4. Had he joined our expedition, he could have learnt many interesting things. 5. Were there no computers, my classmates

wouldn't be able to do a lot of things in class. 6. Were my friend here now, he would tell us about his experiment. 7. Should the guests come earlier, no one will be here to greet them. 8. Had I been given that text, I could have translated it by now.

3. Match the beginnings and endings.

- | | |
|--|---|
| 1. If I get a pay rise, | a) if I found a wallet. |
| 2. I would give it back, | b) I'll take you out for dinner. |
| 3. If I were a manager, | c) I could take a photo. |
| 4. If it weren't so cold, | d) would you want to? |
| 5. If you don't pay the bill, | e) I will do it tomorrow. |
| 6. If I don't have time to finish today, | f) he wouldn't have passed his exams. |
| 7. If he hadn't worked so hard, | g) I could have contacted you. |
| 8. If I had had my cell phone yesterday | h) you will get a warning letter. |
| 9. If you could live to be 100 | i) I would go for a walk. |
| 10. If I had a camera, | j) I would give everybody ten weeks' holiday. |

4. Write conditional sentences to match these situations.

Example:

That book is too expensive. I'm not going to buy it. –

If the book *weren't* so expensive, I *would buy* it.

She didn't pass the exam. She didn't go to college. –

If she *had passed* the exam, she *would have gone* to college.

1. It's raining. We can't have lunch in the garden. 2. You went for a job interview. You were late. You didn't get the job. 3. I'm in a hurry. I won't stay to dinner. 4. Her father gave her some money. She was able to buy a house. 5. I have to work tomorrow evening, so I can't meet you. 6. She is not in your position. She isn't able to advise you. 7. Paul went on holiday to Paris. He met Mary, his wife. 8. Sandra walked to work in the rain. She got wet. 9. We don't visit you very often because you live so far away. 10. He's not a millionaire. He won't buy you a palace.

5. Put in the correct verb form. Make each sentence refer to: a) the present or the future, and b) the past.

a) 1. When you _____ (go) to Paris, will you see Nicole? 2. If you _____ (live) in Paris, you _____ (become) bored of all the beautiful wine and food? 3. You always drive too fast and the police _____ (arrest) you if they _____ (see) you. 4. The exam was very difficult, so it's unlikely now, but if Richard _____ (pass), he _____ (go) to college. 5. If I _____ (be) better qualified, I _____ (apply) for the job. 6. If you _____ (have) longer legs, you _____ (be able to) run faster.

b) 1. If my computer _____ (not crash) yesterday, I _____ (finish) my work. 2. We _____ (get) better tickets for the concert if we _____ (book) earlier. 3. You _____ (win) if you _____ (run) a bit faster. 4. If you _____ (learn) Italian at school, she _____ (enjoy) her last holiday to Italy more. 5. If they _____ (not cut) off the electricity yesterday, I _____ (finish) my work. 6. If you remember the map, we _____ (not get lost).

6. Read and translate the following sentences with relative clauses in which the relative prepositions are left out (See Grammar Reference 11.3.).

1. Here is the book you gave on Saturday. 2. The woman you can see in the classroom is our English teacher. 3. The article we are discussing was written by our students. 4. The room he lives in is very good. 5. I don't remember the person I took this pen from. 6. The teacher I told you about yesterday has just come into the classroom. 7. Have you found the keys you lost? 8. Is there anything I can do? 9. What have you done with the money I gave you? 10. The people we met at the party were very friendly.

7. In some of these sentences you don't need *who* or *that*. If you don't need these words, put them in brackets like this: (*who*), (*that*).

Example:

That is the woman *who* lives next door. (*who* is necessary here)

He thanked me for money (*that*) I sent him. (*that* can be left out)

1. The job *that* he got wasn't very interesting. 2. A woman *who* my sister knows has just bought the house next door. 3. I'm sorry for people *who* haven't got a sense of humour. 4. Have you got an iPad *that* I can use? 5. The woman *who* lives next door is a doctor. 6. The people *who* work in the office are very friendly. 7. The dress *that* Ann bought doesn't fit her very well. 8. What happened to the money *that* was on the table? 9. It was an awful experience. It was the worst thing *that* has ever happened to me. 10. It was an awful film. It was the worst film *that* I've ever seen.

8. Make each pair of sentences into one sentence without using *who/which/that*.

1. You asked me to get you a paper. Here's the paper. (Here's the paper ____.) 2. You recommended a film. We went to see the film. (We went ____.) 3. My sister bought a new car last month. The car has broken down four times already. (The car ____.) 4. You didn't recognize an actor on television last night. The actor was Tom Cruise. (The actor ____.) 5. Jane had some friends at school. Only a few of the friends went on to university. (Only ____.) 6. My father had an operation for his heart problem. The operation was only a partial success. (The operation ____.) 7. Mark wrote an essay while we were on holiday. The essay has won a prize in the school competition. (The essay ____.) 8. My daughter brings friends home. Some of the friends look as though there was something familiar about them. (Some of ____.) 9. "Hijack." People want to see this film. (It's the film ____.) 10. The magazine. Young people read it. (It's the magazine ____.)

SECTION 2 VOCABULARY AND WORD STUDY

9. Read and memorize the active vocabulary to the texts of Unit 11 and translate the given sentences.

1. **advertise** ['ædvətaɪz] *v* – рекламировать, помещать объявление

advertisement [əd'vɜ:tɪsmənt] *n* – реклама, объявление

advert ['ædvə:t]/**ad** [æd] – сокр. от **advertisement**

Many companies *advertise* jobs on the Internet through their own websites, or recruitment websites. She scanned the job *advertisements* in the paper. Big companies often pay celebrities to appear in their *adverts*.

2. **aid** ['eid] *n* – помощь, содействие

aids *n* – вспомогательные средства, пособия

visual aids ['viʒuəl] – наглядные пособия; визуальные вспомогательные средства

The report was compiled with *the aid* of experts. He has to find out what he needs to know about presentation *aids*. *Visual aids* involve your audience and require a change from one activity to another.

3. **animation** [ˌæni'meɪʃ(ə)n] *n* – анимация (создание движущихся изображений на экране дисплея); мультипликация

caption ['kæpʃ(ə)n] *n* – подпись (под иллюстрацией); надпись

chart [tʃɑ:t] *n* – диаграмма, схема, таблица, график

pie chart – секторная диаграмма

diagram ['daɪəgræm] *n* – диаграмма; схема; график, графическое представление

graph [græf] *n* – график, диаграмма

bar graph – гистограмма (диаграмма в виде столбцов)

line graph – диаграмма в виде ломаной линии

handout ['hændaut] – раздаточный материал

overhead projector [ˌəʊvə'hed prə'dʒektə] – кодоскоп

overhead transparency [træns'pærənsi] – прозрачный слайд для кодоскопа

table [teɪbl] *n* – таблица

The Web site has hundreds of *animations* you can download. *Captions* can be placed below, or to the right of the table. *The chart* below lists some of the types of presentation. This video demonstrates how to copy, paste and modify *a pie chart* from an existing Power-Point document. The whole process can be shown in a simple *diagram*. *Graphs* help people illustrate different types of data. You can find *bar graphs* in research presentations. *Line graphs* are widely used for illustrating scientific data. *The handouts* had all the major points of his speech outlined on them. Presentations using *overhead projectors* are useful for small groups. Practice using your *overhead transparen-*

cies so you will be comfortable with handling them correctly. He arranged the figures in *a table*.

4. **apart from** [ə'pɑ:t] *adv* – не говоря уже о, кроме, не считая

It was a difficult time. *Apart from* everything else, we had financial problems.

5. **character** ['kærəktə] *n* – знак, символ; цифра, буква

Our new printer operates at 60 *characters* per second.

6. **convenient** [kən'vi:niənt] *adj* – удобный, подходящий

convenience [kən'vi:niəns] *n* – удобство

I find it *convenient* to be able to do my banking online. I like *the convenience* of living close to work.

7. **convert** [kən'və:t] *v* – преобразовывать; превращать

This media player will require you *to convert* your files into a different format.

8. **engage** [in'geɪdʒ] *v* – занимать, заниматься (чем-л.)

be engaged in smth – заниматься чем-л.

We acknowledge the need *to engage* with these problems. The company *is engaged in* a legal dispute with one of its suppliers.

9. **explore** [iks'plɔ:] *v* – исследовать, изучать; выяснять

exploration [ˌeksplə'reɪʃ(ə)n] *n* – исследование, изучение

investigate [in'vestigeɪt] *v* – исследовать, изучать; расследовать

investigation [in'vesti'geɪʃ(ə)n] *n* – исследование; расследование

The best way *to explore* the region is by boat. We need to carry out a full *exploration* of all the alternatives. Scientists *are investigating* the effects of mobile phones on the brain. They have conducted *the investigation* into the spending habits of teenagers. The police have completed their *investigations* into the accident.

10. **fit** *v* – пригонять, приспособливать; помещаться; собирать, монтировать

The architects designed the museum *to fit* around the Roman ruins. This radio is small enough *to fit* into my pocket. You ought *to fit* a smoke alarm in the kitchen.

11. **highlight** ['haɪlaɪt] *v* – выдвигать на первый план; придавать большое значение; ярко освещать

This article *highlights* some of the important aspects of academic writing.

12. **image** ['imidʒ] *n* – изображение, образ; вид

still image – неподвижное (статическое) изображение, неподвижный кадр; стоп-кадр; видеокادر; фотографическое изображение, фотоснимок

Slowly, *an image* began to appear on the screen. You can help to improve students' vocabulary skills by asking them to illustrate a word or phrase in a story using *a still image*.

13. **integrate** ['intigreɪt] *v* – объединять в единое целое, интегрировать

These programs *will integrate* with your existing software.

14. **media** ['mi:diə] *n* – среда

hypermedia [ˌhaɪpə'mi:diə] *n* – гиперсреда, гипермедиа (расширенный по сравнению с гипертекстом метод организации мультимедийной информации, охватывающий разные среды)

hypertext [ˌhaɪpə'tekst] *n* – гипертекст, обобщенный текст (многоуровневый способ представления информации при помощи связей между документами)

rich media – рич-медиа (технология изготовления рекламных материалов, обычно использующая Flash и Java)

There are certain types of *media* used in multimedia presentations. *Hypermedia* enables us to link text to text, text to image, and image to image. The Web is based on *hypertext* links that allow people to easily move from document to document. *Rich media* is an Internet advertising term for a web page ad.

15. **purpose** ['pə:pəs] *n* – цель, намерение

The purpose of the book is to provide a complete guide to the university.

16. **reduce** [ri'dju:s] *v* – уменьшать, сокращать, понижать

reduction [ri'dʌkʃn] *n* – уменьшение, сокращение, понижение

Reduce speed now. The government promised *a reduction* in prices later.

17. **report** [ri'pɔ:t] *n v* – доклад, сообщение, отчет; сообщать, рассказывать, описывать, докладывать, представлять отчет

She presented a progress *report* on the project. The results of the experiment *were reported* in the paper. I want you *to report* to me on what you have done.

18. **simulate** ['simjuleit] *v* – моделировать; имитировать

simulation [ˌsimju'leiʃn] *n* – моделирование; проведение модельных (имитационных) экспериментов

The device *simulates* conditions in space quite closely. The pilot's skills are tested through *simulation*.

19. **versatile** ['və:sətail] *adj* – универсальный, многоцелевой

This is a *versatile* tool.

20. **worth** [wə:θ] *adj* – стоящий, имеющий стоимость; заслуживающий чего-л.

be worth (doing smth) – стоить, заслуживать

Give me \$10 *worth* petrol. The property is *worth* \$125,000. It *is worth* presenting at student conferences. It *is well worth* making the effort to learn how to do it.

10. Match the pairs of synonyms from A and B and translate them.

A

1. representation
2. decrease
3. diagram
4. imitation
5. usefulness
6. account
7. help
8. goal
9. symbol
10. exploration

B

- a) simulation
- b) aid
- c) image
- d) report
- e) purpose
- f) investigation
- g) reduction
- h) character
- i) chart
- j) convenience

11. Match two words to make a common collocation.

aids	overhead	advert	still	link
image	rich	bar	hypertext	media
graph	job	visual	transparency	

12. Match the verb on the left with a suitable item on the right. Use each item once only.

- | | |
|---------------|-------------------------------|
| 1. download | a) into a different format |
| 2. draw up | b) an investigation |
| 3. use | c) jobs |
| 4. convert | d) some important aspects |
| 5. be engaged | e) into the palm of your hand |
| 6. conduct | f) animations |
| 7. fit | g) with existing software |
| 8. advertise | h) an overhead projector |
| 9. highlight | i) in compiling a dictionary |
| 10. integrate | j) a table |

13. Make the following sentences complete by translating the words and phrases in brackets.

1. (Диаграммы в виде ломаной линии) are the most (универсальный) and most extensively used family of (диаграммы). 2. This book is well (стоит) reading. 3. We need to (уменьшать) the speed slightly. 4. A website may have many different web pages for you to click on and (исследовать). 5. For the university yearbook, funny (надписи) were written for snapshots showing a typical day at university. 6. He works until nine o'clock every evening, and that's quite (не говоря уже о) the work he does. 7. Put an (реклама) in the local paper to sell your car. 8. Computer software can be used to (моделировать) conditions in space. 9. Travelling by underground is fast, (удобный), and cheap. 10. The main use of a (секторная диаграмма) is to show comparison.

14. Read and translate the following groups of sentences paying attention to the words in italics which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

1. a) He could *table* this suggestion for discussion.
b) Please lay the *table* for six.

- c) He showed the price fluctuations in a statistical *table*.
- 2. a) Photos make useful teaching *aids*.
b) He always *aids* inexperienced users.
- 3. a) You will need to compile a *report* on your findings.
b) The committee will *report* on its research next month.
c) You should *report* for duty at 9.30 a.m.
- 4. a) The pencils *fit* neatly into this box.
b) Your car isn't *fit* to be on the road.
c) The formula gives a better *fit* to the experimental data.
d) The key doesn't *fit* the lock.
e) She tries to keep *fit* by jogging every day.
f) They will *fit* this device tomorrow.
- 5. a) Some experts doubt the economic *worth* of the project.
b) The job involves a lot of hard work but it is *worth* doing it.
c) He is *worth* £10 million.

15. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Selection *n*, visual *adj*, pilot *n*, portfolio *n*, brochure *n*, intuitive *adj*, compression *n*, legal *adj*, version *n*, activate *v*, privilege *n*, camera *n*, operation *n*, basis *n*, index *n*, instruction *n*, modify *v*, equivalent *adj*, unique *adj*, combination *n*, global *adj*, electronically *adv*, criteria *n*.

16. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

Multimedia presentation software, presentation material, a question-to-question function, multimedia components, PowerPoint presentations, radio broadcasts, online audio files, sound effects, information environment, company results, multimedia simulations, animation effects, a business message, interactivity potential, presentation software file formats, a portable memory stick, a digital music format, high-quality sound file.

17. Read the text and use the word given in brackets to form a word which will fill the blank.

As the name implies, multimedia is the (integrate) _____ (1) of multiple forms of media. This includes text, graphics, audio, etc. For example, a (present) _____ (2) involving audio and video clips is considered to be a multimedia (present) _____ (3) presentation. (Education) _____ (4) software that involves (animate) _____s (5), sound, and text is called multimedia software. CDs and DVDs are considered to be multimedia formats since they can store a lot of data and most forms of multimedia require a lot of disk space. Due to the (advance) _____s (6) in (compute) _____ (7) speeds and (store) _____ (8) space, multimedia is commonplace today.

SECTION 3 READING AND SPEAKING

18. What do you know about multimedia? Before you read Text 11A “Understanding Multimedia”, try to complete the table about the multimedia components.

Components	Description
Text	
Audio	
Still images	
Animation	
Video	
Interactivity	

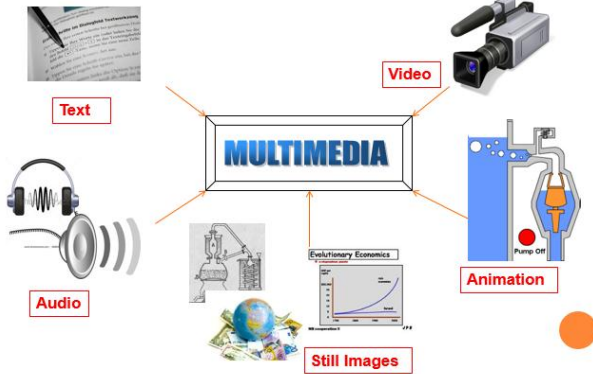
19. Read the text and say if you are right or wrong.

TEXT 11A

UNDERSTANDING MULTIMEDIA

Multimedia is the term used to describe two or more types of media combined into a single package – usually denoting a combination of some or all of the following: video, sound, animation, text, and

pictures. Multimedia gives the user the opportunity to influence the presentation of material. The selection and manipulation of various aspects of the presentation material is the interactive aspect of a multimedia presentation. Interactive features could range from a question-and-answer function to choosing from a menu of particular subjects or aspects of a presentation.



There are certain types of media used in multimedia presentations, from simple to complex visual and audio devices. Multimedia components are divided into:

Text. This refers to written documents, the words seen in handouts, PowerPoint presentations, websites, and reports. One of the simplest types of media, text, is also used to communicate the most information and appears in conjunction with visual aids.

Audio. This is the sound that often accompanies visual presentations. Sound by itself can be used in radio broadcasts or online audio files, but in multimedia presentations audio is used as a complementary media. Sound effects can help make a presentation more memorable, while hearing the main points of information spoken can help listeners focus.

Still images. Photographs taken either by digital or analog means are an important part of multimedia productions. Well-placed visual aids can explain concepts with clarity.

Animation. Animations are graphics that move accompanied by audio effects.

Video. Video media is used to spread interviews, create movies, and post personal updates to communicate business messages. Currently, businesses can use videos online or create CDs to spread for instructional use within their company.

Interactivity. The newest form of multimedia, interactivity, is a computer-based tool which allows users to choose to learn different

parts of information on their own terms. By highlighting or choosing links and sections, users can manipulate the information environment, examining whatever knowledge is important to them.

Multimedia became more popular after the mid-1990s when the price of hardware began to fall. Then people started using it in industry, business, education, entertainment and for other purposes. Today, we can find multimedia at home, in school, at work, in public places, such as libraries, and on the Internet.

In business, advertisers use virtual reality in multimedia applications to advertise their products in three dimensions (3-D). Using multimedia for graphs and tables is now the best way for managers to present company results. In industry, pilots learn to fly using multimedia simulations of real situations, and scientists simulate experiments with dangerous chemicals in safety. Publishers are also producing interactive magazines, called e-zines, and e-books online. In education, students study interactive CD-ROMs and explore topics creatively by clicking on related links. Teenagers have played computer games for years, but many multimedia applications combine education and entertainment and they let them visit virtual worlds or change the ending of films [*Encyclopedia 2016.com*].

20. Find in the text the paragraphs about audio and video components of multimedia, read them aloud and translate them into Russian.

21. Add some more sentences confirming the following statements.

1. Multimedia is the term used to describe two or more types of media combined into a single package. 2. There are certain types of media used in multimedia presentations. 3. Multimedia became popular after the mid-1990s. 4. Multimedia finds its application in different areas. 5. People use multimedia in everyday life.

22. Locate the following details in the Text. Give the line numbers.

1. Where in the text does the author explain the meaning of the term *multimedia*?

2. At what point in the text does the author mention a multimedia presentation?

3. In which lines does the author discuss the use of multimedia in business, industry and education?

4. Where in the text does the author discuss interactive publications?

23. Explain the following references.

1. *This* refers to written documents... .

What does the pronoun *this* refer to?

2. Then people started using *it* in industry, business, education, entertainment and for other purposes.

What does the pronoun *it* refer to?

3. ...*they* let *them* visit virtual worlds... .

What do the pronouns *they* and *them* refer to?

24. Mark the main ideas of the text and retell it in English.

25. Skim Text 11B “Multimedia Presentation Software” and try to understand what it is about and what information is known and new to you.

TEXT 11B

MULTIMEDIA PRESENTATION SOFTWARE

Multimedia presentation software is known for incorporating sound, animation effects and cinematic-like special effects into presentations. It is a tool that computer users of varying industries and backgrounds use to dynamically present information to an audience. It differs from standard presentation software in its features and its interactivity potential.

Professionals may choose to use multimedia presentation software to create portfolios, e-books and advertisements. Educators may find use in multimedia presentation software because it can help them create charts, diagrams, tables, slides and presentations for print and

overhead transparencies. This type of presentation software is popular amongst educators and students alike because it engages the student and the teacher and facilitates active learning. The amateur hobbyist may enjoy multimedia presentation software because of its ability to output dynamic personal projects like screensavers or home movies.

An advantage of working with multimedia presentation software is that it does not require that a user have any detailed knowledge of programming or code writing. The software usually comes with tutorials that are easy to follow and command functions that are self-explanatory and intuitive. This makes great presentations a possibility for anyone of any technical background to achieve.

Images, documents, text, and sounds like MP3 and WAV files can all be manipulated and combined using the software to create a presentation. Even complete or pieces of web pages, videos and animations can be added to a multimedia presentation. Active links, special characters and other features can be added later using the software's editing palette or paint-like application. When using these editing tools, animating, rotating – creating smooth transitions between images – and making timelines can be done easily and quickly.

Multimedia presentation software can have the ability to import other presentation software file formats into the program and convert them into their own propriety file formats or into universal formats like EXE files or QuickTime videos. Screensavers and CD menus can even be created from these files. Completed presentations may be emailed as attachments and some can even be played automatically through the recipient's browser. They can also be published on the Internet, downloaded directly onto a computer's hard drive or burned onto a CD-ROM or DVD. The mobile user who desires to show their presentation at a different location may find it necessary to copy their presentation onto a portable memory stick like a flash drive so that they can simply insert the stick into another computer and access the file at the new location [*What is Multimedia Presentation Software?*].

26. Answer the following questions.

1. What is multimedia presentation software?
2. What are its uses?

3. What are the advantages of working with multimedia presentation software?
4. What tools are used to create a multimedia presentation?
5. How does multimedia presentation software work?

27. Complete the sentences choosing the best variant corresponding to the contents of Text 11B.

1. Multimedia presentation software differs from standard presentation software in its ...
 - a) sound.
 - b) specific characteristics.
 - c) audience.
2. Multimedia presentation software is used by teachers and students because it ...
 - a) outputs dynamic personal projects.
 - b) makes the learning process easier.
 - c) helps to create portfolios, e-books and advertisements.
3. Presentations can be made by anyone because the software ...
 - a) does not require any knowledge of programming.
 - b) is used by intuition.
 - c) comes with tutorials.
4. Transitions between presentation images are created by ...
 - a) using some editing tools.
 - b) making timelines.
 - c) adding web pages.
5. A presentation can be copied onto ...
 - a) EXE files.
 - b) the recipient's browser.
 - c) a flash drive.

28. Give a brief overview of the structure and contents of the text and retell it in English.

SECTION 4 SPEAKING

29. This reference chart provides a guide to giving an oral presentation of your research. Each section begins with the presentation section concerned, then the language formulas appropriate to communicating the key points about your research to an audience. Learn these expressions.

Introducing yourself	<ul style="list-style-type: none"> ● Good morning, ladies and gentlemen! ● First of all, I'd like to thank you all for coming here today. My name is ... and I am a ...-year undergraduate student. ● I'd better introduce myself, I'm ... from ... ● I hope you'll excuse my English. I'm a little out of practice.
Introducing the topic	<ul style="list-style-type: none"> ● The theme of my talk is ... ● My presentation concerns ... ● This presentation focuses on the issue of ... ● I'm going to talk about ... ● I will be looking at the following areas: ...
Justifying the topic	<ul style="list-style-type: none"> ● There are many concerns regarding ... ● ... has been the subject of much debate recently and this is the topic of my presentation. ● Recent research has shown that ... ● ... so the purpose of my presentation today is to inform / discuss / present / analyse ... ● ... is a growing problem in the world.
Ordering information	<ul style="list-style-type: none"> ● I am going to divide my presentation into two main parts. ● I'll start / begin with ... ● Then / Next I'll look at ... ● And in this part of my presentation I'll be showing you some data / charts / tables ... ● Now I'll move on to ... / turn to ... ● I'll also try to explain my findings ... ● ... then I'm going to suggest some possible measures to solve these difficulties. ● Finally, I'll talk about / I'm going to ... ● Please feel free to interrupt me with any questions you may have during the presentation. ● At the end of my talk, which will last about ... minutes, I'll be happy to answer any questions.

Delivering the message	<ul style="list-style-type: none"> ● Firstly, Secondly, ... ● This brings me to my next point ... ● I must emphasize ... ● This means that ... ● At this point we must consider ... ● I'd like to mention three points here ... ● Finally ...
Referring to research	<ul style="list-style-type: none"> ● Researchers have shown that ... ● A number of recent studies, notably the ones by ... and ..., have shown that ... ● A study by ... shows that ... ● Research suggests / indicates that ... ● According to ... ● Figures from ... show / suggest / indicate that ... ● One of the most interesting studies carried out in this area by ... showed that ...
Referring to visual aids	<ul style="list-style-type: none"> ● Have a look at this slide. ● This graph / diagram / table / slide shows ... ● If you look at this table you can see that ... ● There are some handouts coming round on ...
Presenting a point of view	<ul style="list-style-type: none"> ● Those in favour of ... argue that ... ● Some people claim that ... but others ... ● Most people / scientists would argue that ... ● I think it's fair to say that ... ● Personally, I think there is overwhelming evidence that ...
Analysing an argument	<ul style="list-style-type: none"> ● Let's take a closer look at the argument of ... ● Even if we accept the point that ... that still leaves the question of ... ● The argument put forward by ... doesn't explain ... ● The weakness in this argument is that ...
Making recommendations	<ul style="list-style-type: none"> ● In order to solve these problems, the following action should be considered: ... ● The most important thing that should be done to combat the problem of ... is ... ● Other possible solutions would be to ...
Checking understanding	<ul style="list-style-type: none"> ● Is that clear? ● Are you with me? ● OK so far?
Making conclusions and summarising	<ul style="list-style-type: none"> ● I'd like to quickly go over the main points of my presentation.

	<ul style="list-style-type: none"> • Before closing I'd like to summarize the main points. • To conclude my presentation, / In conclusion, ... • To summarise the main points of my presentation ...
Finishing	<ul style="list-style-type: none"> • That's all I have to say for the moment. • OK. We're coming to the end of the presentation so I'd like to thank you for listening ... • I hope you found it interesting.

30. Match the typical expressions used in presentations (1 – 26) with the appropriate heading (a – m), as in the example.

- a) Introducing yourself. 4
- b) Introducing the topic. _____
- c) Justifying the topic. _____
- d) Ordering information. _____
- e) Delivering the message. _____
- f) Referring to research. _____
- g) Referring to visual aids. _____
- h) Presenting a point of view. _____
- i) Analysing an argument. _____
- j) Making recommendations. _____
- k) Checking understanding. _____
- l) Making conclusions and summarising. _____
- m) Finishing. _____

1. Recent research has shown that ...
2. Before closing I'd like to summarize the main points.
3. This graph / diagram / table / slide shows ...
4. First of all, I'd like to thank you all for coming here today. My name is ... and I am a ...-year postgraduate student.
5. And in this part of my presentation I'll be showing you some data...
6. In order to solve these problems, the following action should be considered: ...
7. At this point we must consider ...
8. This presentation focuses on the issue of ...
9. Most people / scientists would argue that ...

10. Research suggests / indicates that ...
11. I hope you found it interesting.
12. Is that clear?
13. Even if we accept the point that...that still leaves the question of...
14. I hope you'll excuse my English. I'm a little out of practice.
15. I'll also try to explain my findings ...
16. There are some handouts coming round on ...
17. My presentation concerns ...
18. Are you with me?
19. Let's take a closer look at the argument put forward by ...
20. This brings me to my next point ...
21. To summarise the main points of my presentation ...
22. ... so the purpose of my presentation today is to discuss ...
23. Figures from ... show / suggest / indicate that ...
24. That's all I have to say for the moment.
25. Personally, I think there is overwhelming evidence that ...
26. Other possible solutions would be to ...

31. Read a sample presentation. Study its structure and standard phrases to be used in research presentations.

Good morning, ladies and gentlemen! First of all, I'd like to thank you all for coming here today. Before I start, let me introduce myself. My name is Hikaru Honda, and I am from Japan. I am a fourth-year student of the University of Tokyo. I hope you will excuse my English. I am a little out of practice. The title of my presentation is "The Implementation of the Platform for Learning the Japanese Language with Videos".

I am going to share my research findings with you. I have divided my presentation into five parts. The first part concerns the background of my research. The second part relates to the system I am developing. In the third part, I will describe what I have already done. In the fourth part, we will discuss the future prospects. And finally, I will summarise my presentation. At the end of my talk, which will last about fifteen minutes, I will be happy to answer any questions.

Well, I'd like to begin with the definition of two terms: mobile learning and podcast. Mobile learning or m-learning is any sort of learning that happens when a learner is not at a fixed, predetermined

location, or learning that happens when a learner takes advantage of the learning opportunities offered by mobile technologies, such as mobile phones and PDAs. Let's take a closer look at some advantages provided by the use of a mobile phone. Firstly, mobile phones are always with us. Secondly, the mobile phones are a sort of social devices. So they are potential tools for collaborative learning.

Now I'll move on to a podcast. According to the website of the Apple Company, a podcast is a free video or audio series – like a TV or radio show – which you download from iTunes and play on your computer, iPod, iPhone, or Apple TV. Obviously you can use the other companies' products. In fact, podcasting can be categorized as an m-learning strategy for teaching and learning. For example, teachers and students can share information by podcasting. If you are absent, you can download the podcast of the recorded lesson.

Next, I will look at the system named LOCH I am developing now. The abbreviation LOCH stands for Language Learning Outside of the Classroom with Handhelds. It is a mobile learning system, and it is being designed to assist foreign students to learn Japanese in real life situations with the help of portable devices.

Have a look at the slides showing the flow of the system. The teacher is assigning the tasks to his students. If you look at this slide, you can see the boy asking about the price of the ticket from the city of Tokushima to the city of Osaka. Then this boy is talking to a local man. He is asking the way to the station. Meanwhile, the teacher, sitting in the classroom, can instruct the students with the help of the system. When all the tasks are done, the students will come back and have a discussion about what they have learned.

Even though the system is a great idea, there are some disadvantages of it. For example, the users of the system are very limited. Only foreign students studying in Japan can be the users of this system. There is another problem about it. It is difficult for students to review their performance and identify their mistakes. To solve this problem I suggest using video recordings of learners' conversations in Japanese. These videos can be shared with all learners and their contents can include all kinds of activities. With the help of videos, learners can review their performance easily and their teacher can help them to identify the mistakes. So I designed a new flow of the system. First, the learners will record a video of their conversations in Japa-

nese. Then, they can upload the materials to the server and categorize them according to the kind of the activity. The learners can ask any questions that may arise.

There are two targets of the system. The first target is to create a platform where Japanese language learners can share videos or audios about their learning. Meanwhile, a teacher can correct their mistakes. The other target is to design such a system which can be a podcast and an m-learning system where learners can subscribe the contents to be delivered to the mobile phone and PDA. So it makes it possible for a student to learn anytime and anywhere.

Now I'd like to take a minute or two to discuss some future prospects. The release of Apple's new iPhone really has a great impact on mobile learning. It does give us a good glimpse of the future. More and more scientists and doctoral students do research with iPhones. They use phones for RSS feeds, podcasts and class materials linking to iTunes, address books, online payments, voice recorders, text alerts and messages from teachers and schools, timetables and schedules.

To conclude my presentation I'd like to quickly go over the main points. I explained two terms in the first part. Then I briefly talked about the LOCH system. Considering the disadvantages of the system, I introduced the new flow and targets of the system. And finally, we discussed the future prospects.

And now I am coming to the end of my presentation. So I'd like to thank you for listening to it. I hope you found it interesting.

32. Say which of Hikaru Honda's statements are true and which are false. Correct the false ones.

1. I am a first-year undergraduate student.
2. I am fluent in English.
3. I will summarise my presentation in the fourth part.
4. Mobile learning is offered by computer technologies.
5. Mobile phones can hardly be used for collaborative learning.
6. A podcast can be downloaded from iPhone.
7. Podcasting is applied for teaching and learning.
8. I have developed the LOCH system.
9. The LOCH system is considered to be a learning system.
10. The flow of the system shows different types of activities.

11. The system does not have any disadvantages.

33. Complete the sentences of the beginning of Hikaru Honda's presentation (1 – 11) with their endings (a – k). Practise it.

1. Before I start, ...
2. I am going to share ...
3. The first part concerns ...
4. The second part relates to ...
5. In the third part, ...
6. At the end of my talk, ...
7. Let's take a closer look at ...
8. Now I'll move on to ...
9. Have a look at the slides ...
10. Now I'd like to take a minute or two ...
11. To conclude my presentation ...

- a) ... the system I am developing.
- b) ... showing the flow of the system.
- c) ... I will describe what I have already done.
- d) ... I'd like to quickly go over the main points.
- e) ... my research findings with you.
- f) ... some advantages provided by the use of a mobile phone.
- g) ... to discuss some future prospects.
- h) ... let me introduce myself.
- i) ... I will be happy to answer any questions.
- j) ... a podcast.
- k) ... the background of my research.

34. Complete the sentences of a sample oral presentation outline supplying them with information on your own research work. Follow the instructions given in brackets.

Introduction

Good morning, my name is _____. I am a _____-year student at the University of _____ majoring in _____. Today I'm going to speak to you about my research on _____.

Context of research

I had the opportunity to join Professor _____'s lab, where the research focus is _____. This is research for my coursework _____. I got interested in this area because _____.

Research question and significance

I wanted to find out _____ (*insert your research question*). This is an important question because _____. / This question interested me because _____.

Research methods/design

I thought the best way to answer this question would be by _____. I chose this method because _____.

Research activity

Here's what I did: _____.

Results

Here's what I found out: _____.

Significance of results

This result matters because _____. Now that I've learned this, I see that some other questions to ask are _____.

Conclusion/Summary of main points

I set out to answer _____ (*research question*) by _____ (*research methods*). And I discovered that _____ (*brief statement of results*). This was interesting because _____ (*significance*).

Acknowledgments

I am grateful to my advisor, Professor _____, for his/her guidance _____. My work was supported by a _____ award.

Questions

I would be happy to take your questions.

35. Based on the information given above, prepare a short presentation about a research project you are working on:

- a) a project description,
- b) research progress,
- c) some results,
- d) an action plan.

SECTION 5 LISTENING

36. Listen to the Text “Rich Media” and answer the questions that follow.

1. What is rich media?
2. What does it involve?
3. What formats can rich media be built in?
4. What are their specific features?
5. Why does the use of rich media increase?
6. What are the disadvantages of rich media?

37. Check your answers with your classmates and Tapescript 11A. Look up the words you do not know in your dictionary.

38. Retell the text about rich media.

39. Listen to the Text “Hypermedia”. Which of the statements are true and which are false?

1. Hypermedia is a system in which various forms of information are linked together by a hypertext program.
2. The term was coined by Fred Nelson in 1975.
3. Hypermedia allows images to be embedded in multimedia.
4. The Internet is the only example of the use of hypermedia.
5. In Microsoft Word, users can add hyperlinks to animations.
6. Hypermedia has found a place in many areas.

40. Check your answers with your classmates and Tapescript 11B. Look up the words you do not know in your dictionary.

41. Retell the text about hypermedia.

SECTION 6 WRITING

42. Prepare to write a presentation about your research. Write notes first – just key words, expressions, numbers, etc. Fill in the following chart.

	My research presentation
Topic	
Purpose	
Topicality and novelty	
Research methods applied	
Experiments conducted	
Findings	
Visual data	
Conclusions	
Other information	

43. Now decide on the structure of your presentation. The phrases of exercises 29 and 34 will help you to order the information. Write your presentation, using the above notes. Present it to the class and answer questions from your classmates.

44. Choose one of these subjects and write a presentation. Tell your classmates which subject you have chosen. Your classmates should write down some questions to ask you about it. The subjects are:

- a) the university you go to;
- b) the degree course you are doing;
- c) new developments in information technology.

UNIT 12

RECENT DEVELOPMENTS IN INFORMATION TECHNOLOGY



Section 1. Grammar Practice:

The Uses of *to be*, *to have*, *shall*, *will*, *should* and *would*.

Section 2. Vocabulary and Word Study:

Revision: Suffixes.

Section 3. Reading and Discussion:

Text 12A. Google Pixel C.

Text 12B. Bluetooth.

Section 4. Speaking:

A Job Interview.

Section 5. Listening:

12A. Flash Drive.

12B. Digital Assistant.

Section 6. Writing:

Applying for a Job.

SECTION 1 GRAMMAR PRACTICE

1. Read and translate the following sentences paying attention to the functions of the verb *to be* (See Grammar Reference 12.1).

1. All data processing on a computer involves the manipulation of data. These data can be organised in the computer's memory in different ways according to how it is to be processed, and the different methods of organising data are known as data structures. 2. In large corporations software is often written by groups of experienced programmers, each person focusing on a specific aspect of the total pro-

ject. 3. High-speed digital computers are playing an increasing role in all the branches of the economy. 4. The terminals are usually a keyboard, which looks like a typewriter, and a VDU (video display unit), which looks like a television. 5. The crucial difference between a compiler and an interpreter is that an interpreter translates one line at a time and then executes it; no object code is produced, and so the program has to be interpreted each time it is to run. 6. Mathematicians and scientists (and their universities) have been electronically exchanging information over the Internet since the mid-70s. 7. For all their apparent complexity, digital computers are considered to be simple machines. 8. No one person is in charge of the Internet, it is organized chaos out there; it is constantly changing and growing. 9. There are two fundamentally different types of computers: analog and digital. 10. More and more components are being squeezed into microchips. 11. There is a problem when I type. There must be a problem with the keyboard. 12. A computer can do what it is instructed to do.

2. Read and translate the following sentences paying special attention to the functions of the verb *to have* (See Grammar Reference 12.2).

1. You have to follow a number of rules when entering MS-DOS commands. 2. Mary doesn't have access to the Internet because her computer isn't online. 3. Many companies have now computerized their offices because they can do the work more quickly and more accurately than people. 4. Some programs have been developed that can simulate potential market conditions so that marketers can pretest strategies. 5. When a command is given to print a document, the user does not have to be concerned with the details of how the printer works – a program called a device driver takes care of the details. 6. When Jane has enough spare time, she loves surfing the Internet and going to lots of sites. 7. When an organisation decides to computerize an area of its business, a decision has to be made whether to buy an off-the-shelf package or have software specially written. 8. When you have found the information you want, it is easy to download it to your computer. 9. Over the years, different computer designers have used different sets of codes for representing characters, which has led to great difficulty in transferring information from one computer to another.

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other. 10. A computer system needs a sure way of identifying the people who are authorized to use it. The identification procedure has to be quick, simple, and convenient. 11. Our company has just redesigned its home page so that it is more attractive to clients when they visit it for the first time. 12. The system has been programmed not only with grammatical rules, but also with the analysis of a vast quantity of office correspondence.

3. Read and translate the following sentences paying attention to the functions of the verbs *shall/will* (See *Grammar Reference 12.3. – 12.4.*).

1. If he applies this method, he will achieve better results. 2. I won't tell anyone what happened, I promise. 3. Will you shut the door, please? 4. If you press the wrong keys, you will just get an error message. 5. What shall I say when the phone rings and someone asks for you? 6. As far as the keyboard is concerned, knowing how to use the enter key, the shift key, the space bar, and tab key will enable them to get started. 7. Jill has been away a long time. When she returns, she will find a lot of changes. 8. We shall attend the professor's lecture on microprocessors tomorrow. 9. Shall we stay in this country or go abroad? 10. The company AB Supplies shall deliver to and the company Collinson Retail shall accept all orders at one delivery point. 11. Payment shall be made by cheque. 12. Students who are unfamiliar with using a mouse will need to be shown how to maneuver it correctly including how to push down or the mouse to hold it steady and how the curser moves along with the mouse on the screen.

4. Read and translate the following sentences paying attention to the functions of the verbs *should/would*. (See *Grammar Reference 12.5. – 12. 6.*).

1. Until recently it was thought that computers would have to be programmed to the accent and speech habits of each user, and only then would be able to respond accurately to their master's or mistress's voice. 2. He would finish his project if he weren't ill. 3. Students should understand how to click on the menu bar to start, quit, and exit programs. 4. Would you please be quiet? I'm trying to con-

centrate. 5. You should not use computer equipment without special training. 6. He would have done that great discovery earlier if he had had better conditions for work. 7. Peripheral devices cannot be connected directly to the processor. Each peripheral operates in a different way and it would not be sensible to design processors to directly control every possible peripheral. 8. In 1965 Cardon Moore predicted that the capacity of a computer chip would double every year. 9. In November 1988, a computer virus spread through business, military, and university computers. A set of instructions was thought up that would duplicate itself and go from computer to computer through networks of discs that were shared. 10. The new tool should work clearly and demonstrably better than the one it replaces. 11. On Saturdays, when I was a child, we would all get up early and go fishing. 12. Computers have taken over many dull and repetitive jobs in offices and factories that would be done by hand.

SECTION 2 VOCABULARY AND WORD STUDY

5. Read and memorize the active vocabulary to the texts of Unit 12 and translate the given sentences.

1. **accept** [ək'sept] *v* – принимать, одобрять, признавать
acceptance [ək'septəns] *n* – принятие, одобрение, согласие
acceptable [ək'septəbl] *adj* – приемлемый, подходящий, допустимый

He *accepted* the invitation. There is growing *acceptance* of the view that education is the basis for economic success. To get on this course, a pass in English at grade B is *acceptable*.

2. **appliance** [ə'plaɪəns] *n* – аппарат, прибор, приспособление, устройство

household ['haushəuld] **appliances** – бытовая техника, бытовые приборы

Always switch off *appliances* that are not in use. They sell household appliances.

3. **consume** [kən'sju:m] *v* – потреблять, расходовать

consumer *n* – потребитель

consumption [kən'sʌmpj(ə)n] *n* – потребление; расход

power ['paʊə] **consumption** – потребляемая мощность

How much electricity do you *consume* per month? The new rates will affect all *consumers*, including businesses. We need to cut down on our *power consumption*.

4. **current** ['kʌrənt] *adj* – текущий, современный

currently *adv* – теперь, в настоящее время, ныне

Most of the *current* troubles stem from our new computer system. He *currently* holds the position of technical manager.

5. **dense** *adj* – плотный, густой, непроницаемый

density ['densəti] *n* – плотность, концентрация

pixel density – плотность пикселей

Plutonium is very *dense*. Aluminium is low in *density*. *Pixel density* is the number of pixels on a display divided by the diagonal size of a display.

6. **encompass** [in'kʌmpəs] *v* – заключать (в себе), охватывать

The job *encompasses* a wide range of responsibilities.

7. **goal** ['gəʊl] *n* – цель, задача

achieve [ə'tʃi:v] **a goal** – достичь цели

He continued to pursue his *goal* of becoming a programmer. Do you think I'll be able *to achieve* my *goal* of becoming a top student?

8. **lack** *n v* – отсутствие, нехватка, недостаток, дефицит; испытывать недостаток, нуждаться, не иметь

I've lost those skills through *lack* of practice. His book *lacks* any coherent structure.

9. **layout** ['leiaʊt] *n* – расположение, схема расположения, планировка, компоновка, план

keyboard layout – раскладка клавиатуры; схема расположения клавиш на клавиатуре

Editing and *layout* is now usually done on computer. There are two major English language computer keyboard *layouts*, the United States *layout* and the United Kingdom *layout*.

10. **mode** ['məʊd] *n* – режим (работы); состояние; способ, метод, принцип (работы)

Switch your phone to silent *mode*. You can also use this computer game in two-player *mode*.

11. **mount** ['maʊnt] *v* – устанавливать, монтировать

The switch *is mounted* directly on the wall.

12. **multitude** ['mʌltitju:d] *n* – множество; большое число

These elements can be combined in a multitude of different ways.

13. **piconet** [ˌpiːkəʊˈnet] *n* – пикосеть, сеть беспроводного доступа с сотами очень малых размеров

A *piconet* is usually implemented with small mobile devices or home devices that need to communicate with each other.

14. **pitch** *n v* – наклон, уклон; угол наклона; иметь наклон, уклон; изменять угол наклона

The *pitch* of the roof is 45 degrees. The magnetic keyboard holds the tablet in place with strong magnets and lets you *pitch* it at anywhere between 90 degrees and flat without falling over.

15. **ratio** [ˈreɪʃiəʊ] *n* – отношение, соотношение, пропорция; коэффициент

screen ratio – соотношение сторон экрана

The efficiency of a machine is the *ratio* between the energy it supplies and the energy put into it. This tablet has an unusual *screen ratio*.

16. **response** [riˈspɒns] **time** – время отклика, время ответа, время реакции системы

Response time is the amount of time a pixel in a display takes to change.

17. **standby** [ˈstændbaɪ] **time** – время нахождения в резерве; время ожидания ответа на вопрос

The frequent use of the phone will unavoidably reduce the overall *standby time*.

18. **scatternet** [ˈskætənɛt] *n* – распределенная сеть (комплекс, состоящий из двух и более пикосетей, расположенных на одной общей территории)

A *scatternet* is a type of network that is formed between two or more Bluetooth-enabled devices, such as smartphones and newer home appliances.

19. **state** [steɪt] *n v* – состояние; режим; формулировать, излагать, заявлять, констатировать

Water can exist in three *states*: a liquid *state*, a gaseous *state*, and a solid one. If the system is in a lower power *state* than a device can support, the device is turned off. “This is a difficult situation,” he *stated* simply. Please *state* why you wish to apply for this grant.

20. **tailor** ['teɪlə] *v* – приспособливать, предназначать для определенной цели

tailored *adj* – специализированный, специально приспособленный; заказной

These programmes of study *are tailored* to the needs of specific groups. The project clearly requires a *tailored* computer system.

6. Match the words on the left with their definitions on the right.

- | | |
|----------------|---|
| 1. ratio | the amount of data stored per unit of space |
| 2. layout | a network created using a Bluetooth connection |
| 3. density | a device, machine, or piece of equipment |
| 4. scatternet | the slope of something |
| 5. appliance | the act of using energy, food or materials |
| 6. mode | the relationship in quantity between two things |
| 7. pitch | a very large number of things or people |
| 8. piconet | a way of operating |
| 9. consumption | the plan or design or arrangement of something |
| 10. multitude | a computer network of two or more piconets |

7. Combine nouns from the left and right to form phrases.

- | | |
|--------------|----------------|
| 1. screen | a) time |
| 2. power | b) appliances |
| 3. response | c) density |
| 4. standby | d) consumption |
| 5. household | e) layout |
| 6. keyboard | f) mode |
| 7. pixel | g) ratio |

8. Find the best verb in the box to complete each of the sentences.

mount	achieve	state	lack	tailor
consume	accept	pitch	encompass	

1. We identify your needs, and _____ your training accordingly. 2. They will _____ the roof at an angle of 75 degrees. 3. He is

going to _____ the switch directly on the wall. 4. She has decided not to _____ the job. 5. They apparently _____ the desire to learn. 6. We have set ourselves a series of goals to _____ by the end of the month. 7. The new light bulbs _____ less electricity. 8. Let me _____ state at the outset that this report contains little that is new. 9. The student debates will _____ a range of subjects.

9. Insert the correct word from the Active Vocabulary.

1. Their _____ is to provide free university education for everyone. 2. A new theory emerged that quickly gained wide _____. 3. _____ time is the period of time that passes while you wait for a computer to do what you have asked it to do. 4. Much of the software is supplied ready _____ for the user. 5. Our _____ financial situation is not good. 6. Less _____ substances move upwards to form a crust. 7. Pi is the _____ of a circle's circumference to its diameter. 8. What kind of _____ are the roads in? 9. The library offers a whole _____ of course books for students. 10. What the problem comes down to is "Will the _____ be willing to pay more for a higher quality product?"

10. Read and translate the following groups of sentences paying attention to the words in *italics* which can function as a noun and a verb, or a verb and an adjective, or a noun and an adjective, with the same form. They can have similar or different meanings. Look up the words in a dictionary if necessary.

1. a) Switch off the electric *current* before changing the bulb.
b) Is this your *current* address?
c) A fan supplies a *current* of fresh air.
2. a) He wants to work as a *tailor*.
b) We *tailor* our products to your company's specific needs.
c) It sounds as though you're *tailor-made* for the job.
3. a) They received *state* funding for the project.
b) Alaska is the largest *state* in the US.
c) We are collecting data on the *state* of the environment.
d) They *state* that the project will be completed in April.
e) Should the *state* play a bigger role in industry?

4. a) After the game fans invaded the *pitch*.
 b) The instrument is not tuned to the correct *pitch*.
 c) We could *pitch* our tent in that field.
 d) The *pitch* of the roof is 45 degrees.
 e) These companies *pitch* for the support contract.
 f) They could *pitch* the roof at a steep angle.

11. Read and translate the following international words. Look up their transcriptions in the dictionary if necessary. Mind the part of speech.

Aluminum *n*, moment *n*, battery *n*, ergonomic *adj*, magnet *n*, induction *n*, instrument *n*, ideal *adj*, cycle *n*, recommend *v*, ingredient *n*, temperature *n*, specialize *v*, secretary *n*, decade *n*, dictation *n*, cognitive *adj*, reservation *n*, contrast *n v*.

12. Read and translate the following word combinations which come from the texts of the Unit. Mind the use of nouns as attributes in preposition. Use your dictionary if necessary.

A glass touchscreen, a colour light strip, a battery level, a power state, back and home buttons, a left-hand corner, keyboard shortcuts; short range, low power, low cost wireless communication; radio technology, a major cell phone manufacturer, data peripherals, an automobile power lock, grocery store updates, a wireless personal area network technology, a point-to point link solution, a key point.

13. Read the text and use the word given in brackets to form a word which will fill the blank.

A (digit) _____ (1) (compute) _____ (2) is a complex system of four (function) _____ (4) elements: a) the (centre) _____ (5) processing unit (CPU), b) input devices, c) memory-(store) _____ (7) devices called disk drives, d) output devices. These parts and their components are called hardware.

The (centre) _____ (8) processing unit is the heart of a (compute) _____ (9). In (add) _____ (10) to performing (arithmetician) _____ (11) and (logician) _____ (12) (operate)

_____s (13) on data, it controls the rest of the system. Sometimes the CPU consists of several linked microchips, each performing a separate task, but most (compute) _____s (14) require only a single microchip as the CPU. Input devices let (use) _____s (15) enter commands, data, or programs for processing by the CPU. (Inform) _____ (16) typed at the (compute) _____ (17) keyboard, which is much like (typewrite) _____ (18), is translated into a series of binary numbers the CPU can manipulate. The mouse is another (wide) _____ (19) used (mechanics) _____ (20) input device. To move the cursor on the display screen, the (use) _____ (21) moves the mouse, selects (operate) _____s (22) and (active) _____s (23) commands on the screen by pressing buttons on the mouse.

SECTION 3 READING AND DISCUSSION

14. Before you read Text 12A “Google Pixel C”, discuss the following questions with your classmates or teacher.

1. What is the Pixel C?
2. What is the difference between the Pixel and the Nexus devices?
3. What specific features does the Pixel C have?
4. What is its screen characteristic of?
5. Why is the Pixel C the most powerful tablet computer?
6. What is its keyboard layout like?
7. Why may the Pixel C change in the future?

15. Read the text to find out if your answers are right or wrong.

TEXT 12A

GOOGLE PIXEL C

The Pixel C is Google’s first own-brand tablet, designed and made via China by Google and is the best Android tablet available at the moment. The Pixel C joins the Chromebook Pixel – the first piece of hardware designed solely by Google – but instead of running

Chrome OS the Pixel C runs the latest version of Android 6.0 Marshmallow, making it the first tablet to do so.

The Pixel line is different to the various Nexus devices which are made in partnership with third-party manufacturers such as HTC, LG or Huawei. There, the manufacturer designs and builds the device,



The Pixel C

while Google sets some of the requirements and provides the software. Google uses the Pixel brand to denote its own-brand machines. They all have a couple of things in common: a plain grey aluminium body, black frame around the glass

touchscreen and a colour light strip in the rear of the lid that indicates when the device is on and the battery level.

It is not the most ergonomic of tablets to hold with relatively hard edges, but it does not feel chunky despite being 7mm thick and weighing 517g. It is both thicker and heavier than rivals such as Apple's 6.1mm, 437g iPad Air 2 and Sony's 6.1mm, 389g Xperia Z4 Tablet, but it is not too heavy to hold. The Pixel C has the 10.2in quad HD screen with a pixel density of 308 pixels per inch, which is visibly sharper than Apple's iPad Air 2 with 264ppi, but very similar to Sony's 299ppi Z4 Tablet. It is also one of the brightest, which makes viewing it outdoors easier.

The Pixel C has an unusual screen ratio. Most tablets use 16:10 or 4:3 like Apple's iPad, but the C has a ratio of $1:\sqrt{2}$, which is the same as that used by the ISO 216 standard for paper such as the common A4 and A3 sizes. It is a nice halfway house between widescreen video (16:9) and the more workable squarer screens (4:3).

Stereo speakers are mounted either side of the screen and are decent for a tablet, but not quite as loud or direct as those mounted in the front of the tablet of rivals. The Pixel C has Nvidia's Tegra X1 1.9GHz quad-core processor, which is meant to be one of the most powerful available at the moment, and has 3GB of RAM with a choice of 32 or 64GB of storage space. Android 6 Marshmallow's Doze fea-

ture, which puts the tablet into a lower power state when it is not being used and is not moving, means that standby time is excellent, matching Apple's iPad. You can be assured that if you pick it up having left it on the coffee table for a week, it will still have some charge, which cannot be said for most other Android tablets.

Google has made only a few small modifications to suit a tablet, the most obvious being the positioning of the back, home and recently used apps buttons, which are no longer placed centrally at the bottom of the screen. The back and home buttons are placed in the left-hand corner, the recently used apps button in the right-hand corner. It makes using the buttons a lot easier when holding the tablet in two hands either side of the screen. There is also a good collection of keyboard shortcuts available for common actions, such as copy and paste, when connected to an external keyboard, plus the notification shade now slides down from wherever it was activated from.

Marshmallow is fast, attractive and responsive on the Pixel C and while it lacks a few of the tailored features for the larger, tablet-sized screen that some others have, the way Android apps are designed means most apps scale relatively easily.

The Pixel C's optional magnetic keyboard is a full keyboard layout, with decent sized keys and excellent travel. It holds the tablet in place with strong magnets and lets you pitch it at anywhere between 90 degrees and flat without falling over. It is excellent and does not need a kickstand to stay up. It connects to the Pixel C via Bluetooth, automatically switching on when the tablet is attached to the kickstand. It charges via induction when connected to the tablet covering the screen like a case, meaning you do not have to worry about plugging it in. It attaches to the back of the tablet when not in use.

The Pixel C may change in the future thanks to the USB-C port and third-party apps, which have the capability to do almost everything, but the number of tablet-tailored apps for Android is still very small. Most apps designed for a phone work well, but take advantage of the extra screen real estate. The Pixel C is a viable alternative to an iPad direct from Google and sets a new bar for Android tablets [S. Gibbs. *Google Pixel C Review: the Best Android Tablet Is a Viable iPad Competitor*].

16. Find in the text the paragraph about the Pixel C keyboard, read it aloud and translate it into Russian.

17. Add some more sentences confirming the following statements.

1. The Pixel C joins the Chromebook Pixel – the first piece of hardware designed solely by Google. 2. Google uses the Pixel brand to denote its own-brand machines. 3. The Pixel C is not the most ergonomic of tablets. 4. The Pixel C has an unusual screen ratio. 5. The standby time of the Pixel C is excellent. 6. The keyboard connects to the Pixel C via Bluetooth. 7. The Pixel C is a viable alternative to an iPad.

18. What do these numbers refer to?

90	1.9	389	517	264	437	308	216	10.2	60
3	64	6.1	6	7	32	1	4	2	1:√2

19. Consider the following statements.

1. The Pixel C is the best Android tablet available at the moment.

Do you agree? Can you give your reasons?

2. The Pixel C is one of the brightest tablets.

Do you agree to that? What is really meant?

3. Google has made a few small modifications to suit a tablet.

Do you agree? Can you express your opinion?

20. Explain the following references.

1. *They* all have a couple of things in common... .

What does the pronoun *they* refer to?

2. *It* is both thicker and heavier than rivals... .

What does the pronoun *it* refer to?

3. *It* holds the tablet in place with strong magnets...

What does the pronoun *it* refer to?

4. *It* charges via induction... .

What does the pronoun *it* refer to?

5. *It* attaches to the back of the tablet when not in use.

What does the pronoun *it* refer to?

21. Find in the text the sentences with the verbs *to be* and *to have* in different functions and translate them into Russian.

22. Mark the main ideas of the text and retell it in English.

23. Skim Text 12B “Bluetooth” and try to understand what it is about and what information is known and new to you.

TEXT 12B

BLUETOOTH

Bluetooth is a standard for short range, low power, low cost wireless communication that uses radio technology. Although originally envisioned as a cable-replacement technology by Ericsson (a major cell phone manufacturer) in 1994, embedded Bluetooth capability is becoming widespread in numerous types of devices. They include intelligent devices (PDAs, cell phones, PCs), data peripherals (mice, keyboards, joysticks, cameras, digital pens, printers, LAN access points), audio peripherals (headsets, speakers, stereo receivers), and embedded applications (automobile power locks, grocery store updates, industrial systems, MIDI musical instruments).

Ericsson joined forces with Intel Corporation, International Business Machines Corporation (IBM), Nokia Corporation, and Toshiba Corporation to form the Bluetooth Special Interest Group (SIG) in early 1998. 3Com Corporation, Lucent/Agere Technologies Inc., Microsoft Corporation and Motorola Inc. joined the group in late 1999. Joint work by the SIG members allowed the Bluetooth vision to evolve into open standards to ensure rapid acceptance and compatibility in the marketplace. Bluetooth technology is already supported by over 2100 companies around the world. The Wireless Personal Area Network (WPAN) technology, based on the Bluetooth Specification, is now an IEEE standard under the denomination of 802.15 WPANs.

The Bluetooth specification defines how Bluetooth devices will group themselves for the purposes of communication. A Bluetooth Wireless Personal Area Network (BT-WPAN) consists of piconets. Each piconet is a cluster of up to eight Bluetooth devices. One device is designated as the master, and the others are the slaves. Two piconets can be connected through a common Bluetooth device (a gateway or bridge) to form a scatternet. These interconnected piconets within the scatternet form a backbone for the Mobile Area Network (MANET), and can enable devices which are not directly communicating with each other, or which are out of range of another device, to exchange data through several hops in the scatternet.

Current implementations of Bluetooth depend primarily on simple point-to-point data links between Bluetooth devices within direct range of each other. However, the Bluetooth specification defines not only a point-to-point link (connectivity) solution, but also a solution for more complex networking topologies. Therefore, the goal is to form Bluetooth scatternets that provide effective and efficient communication over multiple hops with acceptable response times and power consumption so that end-to-end solutions can be deployed.

Bluetooth wireless technology encompasses several key points that facilitate its widespread adoption: a) it is an open specification that is publicly available and royalty free; b) its wireless capability allows peripheral devices to communicate over a single air-interface, replacing cables that use connectors with a multitude of shapes, sizes and numbers of pins; c) Bluetooth supports both voice and data, making it an ideal technology to enable many types of devices to communicate; and d) Bluetooth uses an unregulated frequency band available anywhere in the world [*P. McDermott-Wells. What Is Bluetooth?*].

24. Ask your classmates:

a) what Bluetooth is; b) what devices use Bluetooth technology; c) how Bluetooth works; d) what current implementations of Bluetooth depend on; e) what key points Bluetooth encompasses.

25. Complete the sentences choosing the best variant corresponding to the contents of Text 12B.

1. Bluetooth technology was developed by ...
 - a) Nokia Corporation.
 - b) Intel Corporation.
 - c) Ericsson.
2. A Bluetooth Wireless Personal Area Network consists of ...
 - a) devices.
 - b) piconets.
 - c) scatternets.
3. The Bluetooth specification defines ...
 - a) data links only.
 - b) a connectivity solution only.
 - c) a solution for complex networking topologies.
4. Bluetooth supports ...
 - a) voice and data.
 - b) video.
 - c) connectors with a multitude of shapes and sizes.

26. Give a brief overview of the structure and contents of the text and retell it in English.

SECTION 5 LISTENING

27. The job interview in English contains specific questions and appropriate answers. This exercise provides some tips on job interview questions and answers in English.

When Employers Say...

Tell me about yourself

Tell me about your skills and experience related to the job, or, what personal skills you would bring to

They Want to Know...

About your personality.

Introduce yourself in a confident and informative manner. The statements should be brief and contain your name and some information about your background and experience. Include the type of work you are looking for.

If you have some of the skills required to do the job and that you are easy to work with.

the job.

Tell me about your experiences with this type of work.

Do you know about our company?

What is your greatest strength?

What five words describe you best?

What is your greatest weakness?

What are your long-term goals?

Are you good at keeping deadlines?

What would you do in certain situations, such as a disagreement with another employee, or how to handle an irate customer?

How do you feel about your previous boss, or how do you get along with others?

If you can do the job.

Have specific examples prepared. If you have not done similar work before, mention other skills you can bring to the job.

If you have done your research and if your skills match their values and expectations.

A great reason to hire you.

Ensure your “strength” is right for the job.

If you are dependable, give an example of a time when that strength came in handy.

How do you see yourself?

This is an opportunity to mention skills like enthusiasm, reliability and efficiency.

Where you might encounter problems.

Turn a weakness into strength by giving an example of a time you overcame a weakness on the job.

What your career plans are.

Employers want to know if you will be around long enough so their investment in training you will pay off.

How you handle pressure.

Give work-related examples to prove you have handled pressure well. If you do not work well under pressure, tell your interviewer you like to know deadlines ahead of time, so you can prepare for them properly.

How do you react to pressure? How are your problems solving skills?

Describe a time when you dealt with a similar situation. Back up your story with technical or personal skills, you may have learned in the situation. Assure the interviewer that you would follow company policies and that you are not afraid to ask questions if you do not know what they are.

How you get along with others.

Not only this questioning is a test of your social skills, but also your answer shows the employer how you may describe him or her.

What is your worst trait?	Never badmouth your previous boss. Where you see faults in your job performance or skills. Choose a positive “negative”.
How much are you looking for?	Answer with a question, i.e., “What is the salary range for similar jobs in your company?” If they do not answer, then give a range of what you understand you are worth in the marketplace.

28. Practise the following dialogues.

Dialogue 1 **An Interview for a Saturday Job**

I.: So, you’ve applied for the Saturday position, right?

A.: Yes, I have.

I.: Can you tell me what made you reply to our advertisement?

A.: Well, I was looking for a part-time job to help me through college. I think that I’d be really good at this kind of work.

I.: Do you know exactly what you would be doing as a shop assistant?

A.: Well, I imagine I would be helping customers, keeping a check on the supplies in the store, and preparing the shop for business.

I.: That about covers it, you would also be responsible for keeping the front of the store tidy. What sort of student do you regard yourself as? Did you enjoy studying while you were at school?

A.: I suppose I’m a reasonable student. I passed all my exams and I enjoy studying subjects that interest me.

I.: Have you any previous work experience?

A.: Yes, I worked part-time at a take-away food store in the summer holidays.

I.: Now, do you have any questions you’d like to ask me about the position?

A.: Yes. Could you tell me what hours I’d have to work?

I.: We open at 9.00, but you would be expected to arrive at 8.30 and we close at 6.00 pm. You would be able to leave then. I think I

have asked you everything I wanted to. Thank you for coming along to the interview.

A.: Thank you. When will I know if I have been successful?

I.: We'll be making our decision next Monday. We'll give you a call.

Dialogue 2
At the Students' Job Centre
(Telephone conversation)

A.: York Students' Job Centre. Can I help you?

B.: Yes, are you still looking for students?

A.: Yes, we are.

B.: That's great.

A.: Yeah, but what can you do?

B.: Well, many things...

A.: OK. Can you answer a few questions?

B.: Sure.

A.: Can you type?

B.: Yes, but not too fast.

A.: Not too fast, OK. Can you speak German?

B.: No, I can't. But I can speak French.

A.: Right. Can you cook?

B.: I am afraid not. I hate cooking.

A.: Can you drive a car?

B.: Yes, I can.

A.: That's good. And the last question. Can you work at the weekends?

B.: Yes, certainly.

A.: Can you leave your name and phone number?

B.: My name is Boris Grieg. That's G-R-I-E-G. And my phone number is 7235084.

Dialogue 3
An interview for a Lab Assistant's Job

I.: Good morning, Mr Brandon. My name is Ms Martin. Please have a seat.

B.: Good morning, Ms Martin. It's a pleasure to meet you.

I.: You've applied for the laboratory assistant's position, haven't you?

B.: Yes, Ms Martin.

I.: Do you know exactly what you would be doing as a laboratory assistant?

B.: Oh, a lab assistant helps to make sure that all the experiments are done properly.

I.: Do you have any further plans for further study?

B.: I hadn't really thought much about it. I don't know what courses I could do.

I.: Suppose our company would like you to attend an institution to further your skills. How would you feel about this?

B.: If the course helped me to improve my prospects for promotion and to be better at my job, I would definitely do it.

I.: Have you ever had a job before?

B.: No. I've really been too busy with all the study I've had to do to get a good result.

I.: We have a lot of other applicants for this position. Why do you think that you deserve to get the job?

B.: Well, I've found out a lot about this type of work and my research suggests that I would be quite capable of doing the work involved. I also think that I would be able to handle any training course reasonably well to get for the job.

I.: Now, do you have any questions you'd like to ask me about the position?

B.: I don't think so.

I.: OK. Thank you for coming to the interview.

B.: Thank you, Ms Martin. Goodbye.

29. You are applying for a job as ... (indicate any job you want). Practise the following interview questions. Discuss the answers with your classmates.

1. Can you tell me a little about yourself?
2. What kind of training or experience do you have in this field?
3. Do you have a job now?
4. What are your responsibilities?

5. Why do you want to change your job?
6. What were your responsibilities in your last job?
7. Why did you leave your last job?
8. What do you think are your greatest strengths?
9. What do you consider to be your greatest weaknesses?
10. Why do you want for this company?
11. Why are you interested in this job?
12. Do you want to work full-time or part-time?
13. What salary do you want?
14. When are you available to start?
15. Do you have any questions for me?

30. You are going to interview each other for your jobs, taking it in turns to be the interviewer and candidate (interviewee). Use the above information and dialogues as a guide.

SECTION 5 LISTENING

31. Listen to the Text “Flash Drive” and answer the questions that follow.

1. What is a flash drive?
2. What is the difference between a hard drive and a flash drive?
3. How is a flash drive connected to a computer?
4. What other names of a flash drive are mentioned in the text?
5. How is a flash drive used?
6. What is its storage capacity?
7. Can flash drives be written and rewritten?
8. Why have they nearly replaced CDs and DVDs?

32. Check your answers with your classmates and Tapescript 12A. Look up the words you do not know in your dictionary.

33. Retell the text about flash drives.

34. Listen to the text “Digital Assistant”.

35. Complete the sentences according to the text.

1. A digital assistant, also called a virtual assistant, is an _____ that can understand natural language and complete _____ for the end user.
2. Today's digital assistants are _____ with artificial intelligence, machine learning and _____.
3. As the _____ interacts with his digital assistant, the AI programming uses _____ to learn from _____ and become better at predicting the _____.
4. Tomorrow's digital assistants will be built with more _____ cognitive computing technologies which _____ a digital assistant _____ more complex tasks.
5. Smart advisor programs are _____, while digital assistants are _____.

36. Check your answers with your classmates and Tapescript 12B. Look up the words you do not know in your dictionary.

37. Retell the text about a digital assistant and its specific features.

SECTION 6 WRITING

38. Read the guidelines below which might be used to compose a letter to apply for any competitive position.

A letter of application includes all the basic pieces that appear in any formal letter. What is special about a letter of application is what you need to cover in the body.

A statement of application. Early in the body of the letter state clearly which position you are applying for. Explain what kind of work you are seeking and how it fits into your goals.

A statement of qualifications. Focus on those qualifications that best suit the job in question; the CV will cover the rest.

A statement of why you are a good match. Focus on how you might meet the needs of the organisation, and why you would like to invest your time and effort working for them.

39. Study the parts and the features that are characteristic of a letter of application for a job. Read and translate the letter.

<p>62 Steadman Rd. Clapton, E5 9HA e-mail: engineer@mail.uk</p>	<p>Return address and date</p>
<p>15th September, 2017</p>	
<p>The Personnel Department Attn: Richard Johnson Data Maintenance, Inc 7 Nelson Street, Office 324 London W2 1 ED</p>	<p>Inside address</p>
<p>Re: Software Engineer Position</p> <p>Dear Mr. Johnson</p>	<p>Salutation</p>
<p>Please accept my application for the position of Software Engineer as advertised in the <i>Computing Technology</i>, 2017. I am a dynamic and ambitious IT engineer with five years' experience in creating and maintaining databases. Since graduating from the University of London with a Bachelor's degree in Information Technology, I have worked in several well-known IT companies.</p>	<p>Body</p>
<p>I possess impeccable technical and computer skills with advanced knowledge of setting up database systems and modifying interfaces. My attention to detail and excellent problem-solving skills ensure that every project I work on is done accurately and to the highest possible standard. I am comfortable working as part of a team but also have the ability to take an authoritative role when the situation arises. My verbal communication skills make me an effective communicator with clients.</p> <p>I am excited about the chance of working for Data Maintenance, Inc as I have admired the company since I first started studying Information Technology. My enclosed CV clearly demonstrates my interest in sustainability and the way in which my skills and experiences are compatible with this role.</p> <p>I look forward to the opportunity of discussing my application with you further.</p>	
<p>Yours sincerely,</p>	
<p>Michael L. James</p>	<p>Closing signature</p>
<p>Encl.: CV</p>	

40. Read the advertisement for a job of a landscape designer.

SILICON PARK

Computer Programmer

Silicon Park is looking for a resourceful, results-driven programmer.

As a member of our team, your responsibilities will include:

- designing and developing innovative and practical technical solutions and applications/software;
- testing, installing, evaluating and maintaining new systems and programs
- developing technical specifications.

Skills required to carry out the role include:

- a Bachelor’s/Master’s degree in Information Technology;
- minimum two years of relevant experience;
- thorough understanding of the design and implementation of management software, database management and program testing;
- good systems and process analysis skills;
- independent decision-making capability;
- highly developed negotiation and relationship building skills.

If you think you are the right person for the job, we would love to hear from you!

Please apply with CV to
Mr. Chris Morrison,
The Personnel Manager,
23 Dundobar Rd,
Silicon Park,
London, 6065

Applications close on 15 September 2017.

41. Write a letter of application for the above job.

SUPPLEMENTARY READING

Text 1

The Information Technology Discipline

Information technology is an enormously vibrant field that emerged at the end of the last century as our society experienced a fundamental change from an industrial society to an “information society.” From its inception just half a century ago, computing has become the defining technology of our age, changing how we live and work. Computers are integral to modern culture and are a primary engine behind much of the world’s economic and social change.

By the late 1980’s desktop workstations and personal computers had largely replaced time-shared main frames as the dominant computing paradigm in many organizations. However, as the personal computer became more powerful and more connected, it became more complex to administer, and the demand for people who could “make things work” in a networked microcomputer environment escalated. The trend to desktop computing was turned into a revolution with the appearance of Web browsers and the resulting explosion of the World Wide Web. By turning the computer into a usable communication device that can access the entire world, Web browsers became the first compelling reason for everyone in society to use a computer. The almost overnight acceptance of the WWW by society at large created a hyper-demand for Web-based content and services, which ignited the explosion in demand for Web content developers and Web masters. As Web sites became more active and interactive, the demand for application developers and database developers expanded as well.

The field continues to evolve at an astonishing pace. New technologies are introduced continually, and existing ones become obsolete almost as soon as they appear. The rapid evolution of the discipline has a profound effect on Information Technology education, affecting both content and pedagogy. For example, networking was not seen as a major topic area in the early 1990’s. The lack of emphasis on

networking is not particularly surprising. Networking was not yet a mass-market phenomenon, and the World Wide Web was little more than an idea in the minds of its creators. Today, networking and the Web have become the underpinnings for much of our economy. They have become critical foundations of Information Technology, and it is impossible to imagine that four-year programs would not devote significantly more time to this topic. At the same time, the existence of the Web has changed the nature of the educational process itself. Modern networking technology enhances everyone's ability to communicate and gives people throughout the world unprecedented access to information. In most academic programs today networking technology has become an essential pedagogical tool.

These changes fall into two categories – technical and pedagogical – each of which has a significant effect on Information Technology education. The major changes in both of these categories are described in the individual sections that follow.

Technical changes. Much of the change that affects information technology comes from advances in technology. In the last decade there has been unprecedented innovation in technologies for communication, computation, interactivity, and delivery of information. Over the last ten years the world has changed dramatically both in how people work and live. The technology of telephony and computing has created an increasingly mobile environment where communications and connectivity are expected anytime and anyplace. Society has become accustomed to connectivity that provides access to information on demand in all aspects of every day life. Demand for connectivity to full network service anytime and anyplace has resulted in enormous growth in wireless networks in the last few years comparable to the explosive growth of the Internet in the '90s. Over one billion people have access to the Internet today by wired and wireless access and it is predicted that over two billion people will have wireless access to the Internet by 2010. Technical advances over the past decade have increased the importance of many curricular topics, such as the following: the World Wide Web and its applications, networking technologies, systems administration and maintenance, graphics and multimedia, Web systems and technologies, service-oriented architecture, e-commerce technologies, relational databases, client-server technolo-

gies, sophisticated application programmer interfaces (APIs), human-computer interaction, security, and application domains.

Pedagogical changes. The technical changes that have driven the recent expansion of computing have direct implications on the culture of education. Computer networks, for example, make distance education much more feasible, leading to enormous growth in this area. Those networks also make it much easier to share curricular resources among widely distributed institutions. Technology also affects the nature of pedagogy. Demonstration software, computer projection, and individual laboratory stations have made a significant difference in the way Information Technology is taught.

As an academic discipline, Information Technology focuses on preparing graduates who are concerned with issues related to advocating for users and meeting their needs within an organizational and societal context through the selection, creation, application, integration and administration of computing technologies.

Information technology is a label that has two meanings. In the broadest sense, the term *information technology* is often used to refer to all of computing. In academia, it refers to undergraduate degree programs that prepare students to meet the computer technology needs of business, government, schools, and other kinds of organizations. In some nations, other names are used for such degree programs.

Information systems focus on the information aspects of information technology. Information Technology is the complement of that perspective: its emphasis is on the technology itself more than on the information it conveys. IT is a new and rapidly growing field that started as a grassroots response to the practical, everyday needs of business and other organizations. Today, organizations of every kind are dependent on information technology. They need to have appropriate systems in place. These systems must work properly, be secure, and be upgraded, maintained, and replaced as appropriate. Employees throughout an organization require support from IT staff who understand computer systems and their software and are committed to solving whatever computer-related problems they might have. Graduates of Information Technology programs address these needs.

Degree programs in information technology arose because degree programs in the other computing disciplines were not producing an adequate supply of graduates capable of handling these very real

needs. IT programs exist to produce graduates who possess the right combination of knowledge and practical, hands-on expertise to take care of both an organization's information technology infrastructure and the people who use it. IT specialists assume responsibility for selecting hardware and software products appropriate for an organization, integrating those products with organizational needs and infrastructure, and installing, customizing, and maintaining those applications for the organization's computer users. Examples of these responsibilities include the installation of networks; network administration and security; the design of web pages; the development of multimedia resources; the installation of communication components; the oversight of email systems; and the planning and management of the technology lifecycle by which an organization's technology is maintained, upgraded, and replaced [B.M. Lunt, J.J. Ekstrom, S. Gorka, G. Hislop et al. *Curriculum Guidelines for Undergraduate Degree Programs in Information Technology*].

Text 2

Careers in the Growing Field of Information Technology Services (U.S. Bureau of Labor Statistics)

Computers and information technology (IT) touch nearly every aspect of modern life. IT can help with such diverse tasks as driving motor vehicles and diagnosing diseases. It enables seamless integration and communication between businesses anywhere in the world. To keep it systems running, a large workforce is needed to maintain networks, create new software, and ensure information security. In addition, the proliferation of smartphones has given rise to a new "app economy," in which new employment opportunities are available for workers who create the programs that run on mobile devices.

Computer systems design and related services can be broken down into four subindustries: custom computer programming services, computer systems design services, computer facilities management services, and other computer related services. The first two are the largest, and account for almost 90 percent of all it services employment. Custom computer programming services include establishments that write, test, and modify software for a particular client. This software includes computer programs, webpage design, and database de-

sign. Computer programming services also provide support to clients after the newly designed software is implemented.

Computer systems design services include establishments that plan and design computer systems that integrate hardware, software, and communication technology. Systems design services may provide their own hardware and software or use third-party equipment. Generally, design firms also install new computer systems and train the users. Computer systems design firms also provide support services to clients when the installation and training is finished.

Like most industries, computer systems design and related services is made up of many different occupations. Computer occupations make up more than half the industry, but a large number of managers, business and financial workers, and administrative employees work in the industry as well. These workers are included in occupations such as accountants and auditors, general office managers, and customer service representatives. Although these occupations do not involve computer systems design work directly, they do help to keep the IT companies running smoothly. Because of the high demand for computer systems design and related services, all the occupations in this industry have fast growth rates and high wages relative to the same occupations across all industries.

Computer and mathematical occupations make up about 56 percent of the computer systems design and related services industry. A software developer is the largest occupation in the industry, making up a 20-percent share. Software developers create computer programs and oversee the entire design process, from planning stages to future upgrades. There are two different types of developers: applications software developers and systems software developers. Applications software developers design a wide range of programs, from spreadsheets used by accountants, to electronic maps that help give people directions, to popular mobile games. Applications developers often design software that is offered through cloud computing. Employment of this occupation in the computer systems design and related services industry is projected to grow 57 percent from 2010 to 2020.

Systems software developers create and upgrade operating systems, the software that supports a computer's basic functions, such as scheduling tasks, executing applications, and controlling peripherals.

Employment of systems software developers in this industry is projected to grow 72 percent between 2010 and 2020.

The rapid increase in both types of software developers is attributable to an increased demand for new and updated software. Many consumer electronics include their own computers that need operating systems. Mobile computing and health care it also require new software applications. The need for stronger cybersecurity will drive the demand for developers to design new software to detect, contain, and prevent viruses.

Computer programmers make up 8 percent of the computer systems design and related services industry. By writing computer code, they turn the designs created by software developers into instructions a computer can follow. Employment of programmers in computer systems design and related services is projected to grow 29 percent from 2010 to 2020. The projected growth in employment of computer programmers is attributable to increased demand for new and updated software. However, computer programming jobs are expected to be increasingly outsourced to countries with lower production costs, resulting in a slower projected growth rate over the next decade.

Computer systems analysts make up 9 percent of the industry. These workers serve as a link between it departments and management. They analyze an organization's computer systems and recommend ways to make the business run more efficiently. Computer systems analysts employed in this industry often serve as consultants. For example, a university that wants to upgrade its computer systems might hire a firm from this industry. The firm has computer systems analysts on staff to study the systems the university is currently using and recommend areas for improvement. Computer systems analysts also assist organizations that want to switch all or part of their systems to cloud computing. From 2010 to 2020, employment of computer systems analysts in computer systems design and related services is projected to grow 43 percent. In general, they will be hired by businesses to reorganize it departments to operate more efficiently.

Computer support specialists make up 8 percent of the computer systems design and related services industry. They provide help and advice to consumers or organizations that are using computer software or equipment. Some assist customers who call the company to speak to a specialist when they are having trouble with a software program

or networking device. Other computer support specialists work in a company's IT department and provide support for other company employees who are having computer problems. Employment of computer support specialists in computer systems design and related services is projected to grow 43 percent from 2010 to 2020. They will be needed as organizations continue to upgrade to increasingly complex computer systems and equipment.

The work done in the computer systems design and related services industry is varied and often on the cutting edge of technology. Overall employment in this industry has grown rapidly in recent years and is projected to continue to do so. Employment estimates for nearly all of the computer occupations in this industry are projected to grow much faster than the 14-percent average growth rate for all occupations. Workers in the major occupation groups in this industry earn high wages, and most workers have at least a bachelor's degree. From building cloud computing networks to creating security applications, the services provided by computer systems design and related services are constantly evolving and in high demand [L. Csorny. *Careers in the Growing Field of Information Technology Services*].

Text 3

Modern Computers

Modern computers are electronic and process digital information. The physical machine consists of transistors, digital circuits implemented with transistors, wires, and mechanical components in peripheral devices used for information storage. These physical entities are collectively called hardware. System and application programs are called software. A general purpose computer system is a programmable machine that can solve problems by accepting inputs and instructions on how to use these inputs. The instructions are included in computer programs (that is, software) that normally contain sequences of them. Graphical languages are rarely used to represent computer programs as collections of instructions with relationships between arbitrary pairs of them. Programs are often written in high-level languages (HLLs) that have to be translated (by appropriate software compilers) to produce machine-readable (that is, machine language) code that can be run directly by the given computer system.

The machine language code contains sequences of primitive instructions for the given computer in binary representation. HLLs employ mnemonics of more powerful instructions, and appropriate structures to make programming easy and independent of the target computer.

From the software point of view, a computer is a six-level system consisting of the digital logic (collections of electronic gates), microarchitecture (a collection of functional units, such as ALUs – Arithmetic Logic Units, and their interconnectivity), instruction set architecture (the complete set of machine language instructions), operating system (code that monitors and controls the activities of the computer), assembly and machine language, and high-level language. The assembly language is very close to the machine language of a computer; it basically replaces the binary representation of machine instructions with mnemonics in a one-to-one fashion. From the hardware point of view, a computer is conveniently assumed to be a five-level hierarchy. The five levels correspond to network ports for connecting to the outside world (these ports may not be necessarily available, as a computer may be a standalone information processing and/or computing machine), peripheral or mass-storage devices for (applications and system) program and data storage, main memory, program and data caches (fast memories for retrieving data by content), and CPU (Central Processing Unit) or processor. Special emphasis is given in this article to the description of computer systems based on this five-level representation.

Many other components are also included in computer systems in order to enable the aforementioned basic components to function properly. For example, control and data busses are used to transmit data between any two successive levels of the hardware hierarchy and glue logic is used to implement the appropriate interfaces. The design of a computer system most often begins with the selection of a particular CPU. The other components are selected progressively based on performance requirements. Analytical techniques, software simulations, and software or hardware prototyping of the complete or partial computer system are used to make final decisions about the design. Special attention is given nowadays to hardware-software codesign, where the selection or design of components is made in unison with the development of the corresponding system software.

There exist several types of general purpose computer systems. These types are grouped together into two major computer classes, comprising sequential or conventional computers, and parallel computers, respectively. The class of sequential or conventional computer systems comprises:

Laptops and palmtops. These are small, portable computer systems. Laptops often contain very powerful processors and have capabilities very close to those of PCs; their major drawbacks are smaller screens, smaller memory, and fewer peripheral (that is, I/O – Input/Output) devices which are, however, portable. These single-user computers are implemented in the form of microcomputers. The prefix *micro* denotes the inclusion of a microprocessor that resides on a single chip and serves as the CPU. Other components also are included, of which the critical ones are a keyboard for data input, a screen (monitor) for information display, memory chips for temporary storage, and a hard disk for data storage.

PCs (personal computers) or desktops. These computers also are of the microcomputer type. The RAM and ROM form the main memory that stores system and application programs, and data. The ROM contains only part of the operating system, and most often the part that initializes the computer. The software stored in the ROM is called firmware. Resource interface units form the required glue logic for the implementation of the required data exchange protocols. The control bus transfers the control signals produced by the microprocessor. To access an element in the memory or a peripheral device, the microprocessor first issues the address of that item on the address bus. The address bus is unidirectional, from the processor to the other units. While the latter value is still present on the address bus, the microprocessor issues the appropriate control signals to read or write from the corresponding location. The address issued by the microprocessor is decoded by external logic to choose the appropriate memory module or I/O device. The data is finally transferred on the bidirectional data bus.

Workstations. They appeared in the 1980s as single-user computers with much better performance than PCs, primarily because they contain very advanced microprocessors. They often include proprietary co-processors to facilitate graphics functions because they basically target the scientific and engineering communities. They were

uniprocessor computers in the early days, but multiprocessor workstations appeared for the first time in the market a few years ago. They are now often used as multi-user platforms.

Minicomputers. High-performance cabinet-sized computers that can be used simultaneously by a few dozens of users. They are used in engineering and scientific applications. They have been replaced recently by advanced workstations and networks of workstations.

Mainframes. Very powerful computers that can serve many dozens or hundreds of users simultaneously. IBM has produced numerous computers of this type. They have been replaced recently in many occasions by networks of workstations.

Contrary to sequential computers that use a single CPU to solve a problem, parallel computer systems employ many CPUs in appropriately connected structures. This new class of computers comprises multiprocessors, multicomputers, and vector supercomputers. Distributed computer systems can be developed, where several complete computer systems are connected together in a networked fashion to solve a problem in parallel [S.G. Ziavras. *Computer Systems*].

Text 4

Magnetic Disk Drives

The most complicated and interesting computer peripheral is a hard (magnetic) disk drive (HDD). Its organization can be broken down in a series of steps starting from the outside, or physical dimensions, and then eventually breaking it down into individual bits. Generally, a HDD comes in two flavors: one for desktop computers, and one for laptop (or notebook) computers. Desktop HDDs are 3.5" wide and notebook computers are smaller at about 2.5" wide. And depending on how old the HDD is, 5.5" wide was another common size which is not in use anymore. Inside each of these different sized housings are platters, read/write heads, and drive electronics.

The platters are simply the disks that hold data by a magnetic charge. Typically, there are about four platters. These platters all spin together at a constant speed, called the rotational speed. Rotational speed is a dynamic characteristic of a HDD and is commonly equal to 7,500 RPMS, although there are some drives that can reach speeds of 15,000 RPMS. As the platters rotate, read/write heads have a station-

ary pivot and they “pick up” or “drop off” data onto the specific area of the HDD. There is a read/write head to each surface of the platters. Generally, only one head is active at a time and the data stream is always bit-serial to and from the surface. The platters can traverse the active area of the disk in around 17 ms.

The drive electronics play a very important roll in interfacing the HDD with the CPU. To the CPU, they provide an interface to a standard serial bus such as SCSI (small computer systems interface), PATA (parallel advanced technology attachment), or SATA (serial advanced technology attachment). There are many more serial buses, but what was mentioned above is most commonly used. This allows the CPU to treat the HDD as another memory device. It is important to note that a HDD is much slower than memory found in the computer such as SDRAM. Following a read request, the drive must seek out and find the block requested, stream it off the surface, error-check and possibly error-correct it on the fly, assemble it into bytes, store it in an on-board buffer, and signal the processor that the task is complete. This is a lot of work, so a special purpose disk controller assists the drive controller. These components are attached to the drive, and I/O is by means of an edge connector.

When a block of data is requested, the HDD must know where it is located, so the surface of the HDD is broken up into what are called tracks, sectors, and cylinders. A track goes around the surfaces circumference like you would expect to see on a high school runner track. These tracks are divided up again by means of a vertical line and the result is called a sector. The head can determine which track it is on by counting tracks from a known location, and sector identities are encoded in a header written on the disk at the front of each sector. The number of bytes per sector is fixed for a given disk drive, varying in size from 512 bytes to 2 KB. A cylinder is formed when you take all the tracks with the same number but on different surfaces.

Information is recorded to the drive 1 bit at a time by using magnetism. The write head will magnetize a small area on the track and that area is recognized as a bit as it passes under the read head. A brand new HDD from the factory has been initialized or formatted, meaning the drive has had the original track and sector information on the surfaces and has been made sure that it can be written and read from each sector.

The static property of a HDD is related to the drive capacity and unrelated to access speed. Drive capacity can be measured in several different ways including areal density (never realized in practice), and formatted density (actual storage capacity). Dynamic properties include seek times, track-to-track time, rotational latency, access time (seek time plus rotational latency), burst rate, sustained rate, and head recalibration. The most important properties of all these, or the ones most realized in practice, are rotational latency and sustained rate. Rotational latency is the average time required for the needed sector to pass under the head once the head has been positioned at the correct track. Today, rotational latencies are about 4.6ms. Sustained rate is the rate at which data can be accessed over a sustained period of time. This is important when designing systems that must access large files in real time like video or audio data.

As the size of hard drives continues increasing, the problem of backing up important data becomes difficult. In the early days of hard drives, a single CD-ROM could easily hold more information than the entire drive, but with modern drives holding in the hundreds of gigabytes of information, even the densest DVD can hold a small fraction of the hard drives capacity. In part because of this problem, a great deal of effort has gone into finding methods to improve the reliability and performance of the hard drive itself. Two powerful methods have come out of this effort. The first is called Redundant Array of Inexpensive Disk, referred to as RAID. The second is known as Self Monitoring and Reporting Technology, also called SMART.

RAID is a very powerful way of protecting information through the use of multiple hard drives. There are several different setups that can be used. The common theme between all RAID setups is that they spread data across multiple drives. SMART is an idea that is incorporated into the hardware of the disk drive. It records error rates as the drive reads and writes information for different categories related to the drives “health”, and is designed to issue a warning if any of those error rates go above some threshold value. This allows the drive to warn users when the drive may be nearing failure, but the information is still easily retrievable [*D. Hildreth, Ch. Davis. Peripheral Devices*].

Text 5
Software Issues

The importance of software in computer systems has brought new issues to the forefront for organizational managers. These issues include software evaluation and selection, software licensing, software upgrades, open systems, and open source software.

The software evaluation and selection decision is a difficult one that is affected by many factors. The first part of the selection process involves understanding the organization's software needs and identifying the criteria that will be used in making the eventual decision. Once the software requirements are established, specific software should be evaluated. An evaluation team composed of representatives from every group that will have a role in building and using the software should be chosen for the evaluation process. The team will study the proposed alternatives and find the software that promises the best match between the organization's needs and the software capabilities. Software Evaluation Criteria are shown on the Web site.

Vendors spend a great deal of time and money developing their software products. To protect this investment, they must protect their software from being copied and distributed by individuals and other software companies. A company can copyright its software, which means that the U.S. Copyright Office grants the company the exclusive legal right to reproduce, publish, and sell that software. The Software Publisher's Association (SPA) enforces software copyright laws in corporations through a set of guidelines. These guidelines state that when IS managers cannot find proof of purchase for software, they should get rid of the software or purchase new licenses for its use. A license is permission granted under the law to engage in an activity otherwise unlawful. The SPA audits companies to see that the software used is properly licensed. Fines for improper software are heavy. IS managers are now taking inventory of their software assets to ensure that they have the appropriate number of software licenses.

Although many people do so routinely, copying software is illegal. The Software Publishers Association has stated that software piracy amounts to approximately \$15 billion annually. Software developers, failing to recoup in sales the money invested to develop their products, are often forced to curtail spending on research and development. Also, smaller software companies may be driven out of business, because they cannot sustain the losses that larger companies can.

The end result is that innovation is dampened and consumers suffer. Consumers also pay higher prices to offset the losses caused by software piracy.

As the number of desktop computers continues to increase and businesses continue to decentralize, it becomes more and more difficult for IS managers to manage their software assets. As a result, new firms have sprouted up to specialize in tracking software licenses for a fee. Firms such as ASAP Software, Software Spectrum, and others will track and manage a company's software licenses, to ensure that company's compliance with U.S. copyright laws.

Another issue of interest to organizational management is software upgrades. Software vendors revise their programs and sell new versions often. The revised software may offer valuable enhancements, or, on the other hand, it may offer little in terms of additional capabilities. Also, the revised software may contain bugs. Deciding whether to purchase the newest software can be a problem for organizations and their IS managers. It is also difficult to decide whether to be one of the first companies to buy and take strategic advantage of new software before competitors do, and take the risk of falling prey to previously undiscovered bugs.

The concept of open systems refers to a model of computing products that work together. Achieving this goal is possible through the use of the same operating system with compatible software on all the different computers that would interact with one another in an organization. A complementary approach is to produce application software that will run across all computer platforms. If hardware, operating systems, and application software are designed as open systems, the user would be able to purchase the best software for the job without worrying whether it will run on particular hardware. As an example, much Apple MacIntosh application software would not run on Wintel (Windows-Intel) PCs, and vice versa. Neither of these would run on a mainframe. Certain operating systems, like UNIX, will run on almost any machine. Therefore, to achieve an open-systems goal, organizations frequently employ UNIX on their desktop and larger machines so that software designed for UNIX will operate on any machine. Recent advances toward the open-systems goal involve using the Java language, which can be run on many types of computers, in

place of a traditional operating system. Programs written in Java can then be executed by any machine.

Open systems should not be confused with open source software. Open source software is software made available in source code form at no cost to developers. There are many examples of open-source software, including the GNU (GNU's Not UNIX) suite of software (gnu.org) developed by the Free Software Foundation (fsf.org); the Linux operating system; Apache Web server (apache.org); sendmail SMTP (Send Mail Transport Protocol) e-mail server (send-mail.org); the Perl programming language (perl.com), the Netscape Mozilla browser (mozilla.org); and Sun's StarOffice applications suite (sun.com).

Open source software is, in many cases, more reliable than commercial software. Because the code is available to many developers, more bugs are discovered, are discovered early and quickly, and are fixed immediately. Support for open source software is also available from companies that provide products derived from the software, for example, Red Hat for Linux (redhat.com). These firms provide education, training, and technical support for the software for a fee [R. Kelly Rainer, E. Turban. *Introduction to Information Systems: Supporting and Transforming Business*].

Text 6

Historical Introduction to CAD

Computer-Aided Design (CAD) is, as the name suggests, the use of computers to assist with the design of manufactured products, the built environment, or fictitious environments. More specifically, it refers to software – and originally computer hardware as well – for creating digital models of physical objects.

The rise of CAD systems in the 1960s was motivated by the sheer impracticality of drawing designs by hand. Not only was the process laborious and error-prone, it could also cause practical headaches. Many designs had to be drawn to a scale of 1:1, which was something of a challenge when it came to aircraft wings or ship hulls. A further driver was the development in 1957 of PRONTO, the first commercial computer numerical control (CNC) system, which could

be used to automate certain machining processes. Programming such systems from paper plans was, again, laborious and error-prone, and would be considerably easier if the shapes involved were already mathematically defined.

Thus, from the late 1950s to the mid-1970s there was an intensive effort by both industry and academia to find mathematical representations of the paper designs, and to create tools for authoring them. Probably the first recognizable CAD system was SKETCHPAD, developed between 1960 and 1963 at MIT by Ivan Sutherland. User input was via a light-pen, with which the designer drew on the computer screen. Major industry players such as Ford, Renault and Lockheed developed in-house CAD systems in the 1960s, and the first successful commercial CAD systems appeared in 1969.

The earliest CAD models were two-dimensional, more or less a digital analogue of the blueprint. CAD systems solved many efficiency problems: designers could easily copy and paste repeated design elements, run scripts instead of laying out everything by hand, and avoid or correct mistakes more easily. But what firms really wanted to do was to input CAD models directly into CNC systems, and the CNC systems worked in three dimensions. Three-dimensional shape data was needed.

The first approach used for 3D-modelling involved wire-frames, where shapes were represented solely by their vertices and edges. While computationally simple, the technique could not express complex surface curvatures, however, and intricate designs quickly became unreadable.

The next generation of systems used surface modelling. Several mathematical constructs for representing surfaces were tried, but eventually non-uniform rational B-splines, or NURBS, emerged as the standard. NURBS turned out to unify most of the previous techniques, and are still widely used for representing exact geometry today.

One of the drawbacks of moving from full-scale drawings to computer systems and their small screens was that designers found it harder to detect shape defects by eye. In response to this problem, CAD systems started to have a role in analysing the designs they were used to author. Various methods of solid modelling were researched and subsequently used in CAD systems, but the two that proved most

popular were Constructive Solid Geometry (CSG) and Boundary Representation (B-Rep).

The move to three dimensions was the point at which CAD models stopped being mere conveniences for drawing blueprints and started taking on importance in their own right. With 3D models, it became possible to design shapes that could not be clearly or adequately expressed by three 2D elevations. The ability to analyse designs in 3D meant that more ambitious designs could be attempted, and also that standards for design checks were raised beyond what could be done by eye. In the context of industrial product design, 2D surrogates soon became inadequate records and regarded as dangerously open to misinterpretation.

In parallel with these developments, other innovations were being introduced to increase the ease with which designs could be created and reused. Many CAD vendors have implemented construction history modelling, which takes the idea of an ‘undo’ function and turns it into a sophisticated tool. The sequence of editing actions leading to the current model is recorded in the file, meaning that a designer can revisit any stage in the history of the model, even from a previous editing session. Once there, the designer can make adjustments, then replay the subsequent editing actions taking the adjustments into account. This function can also be useful from an investigative or re-use perspective, as it allows a second designer to inspect exactly how a model was put together and thereby infer the rationale of the original designer.

Parametric modelling is a powerful technique for making designs easier to adjust. Certain aspects of the design are made to depend on one or more variables, and a set of constraints is added so the system knows how to accommodate any changes to those variables.

A logical extension of this is feature-based modelling, which adds a semantic layer to designs. A feature in this sense is a collection of characteristic shapes which are significant for the use or performance of the model. For example, a designer might apply a curved blend feature where two surfaces meet; the semantics associated with the feature will reveal whether the designer is anticipating how the part will be machined or trying to avoid a stress concentration at the corner (or both). This is known as design by features; some systems have a facility for feature recognition, where the system uses pattern

matching to apply semantics to a design, and some can perform feature validation to ensure the design is feasible. Feature-based modelling began to appear in commercial systems in the late 1980s, after about a decade of development.

All these modelling techniques embed far more information into a model than would be evident from just the final shape data. This information is highly useful for investigators trying to uncover why a product or building performed unexpectedly; for designers seeking to modify legacy designs in the light of new customer requirements; and for designers wanting to reuse elements in new designs.

The current emphasis for CAD development in the engineering sector is not so much on geometric modelling as on integrating data and information from across the product lifecycle. Computer-Aided Engineering (CAE) is an umbrella term bringing together CAD, Computer-Aided Manufacture (CAM), Computer-Aided Process Planning (CAPP), Finite Element Analysis (FEA), and Material Requirements Planning (MRP), and is itself subsumed under the wider concept of Product Lifecycle Management (PLM), which also includes areas such as performance tracking, portfolio management, data archiving and so on. PLM systems are marketed as a way of integrating all these different tasks [A. Ball. *Preserving Computer-Aided Design (CAD)*].

Text 7

Programming Languages

Programming languages provide the basic building blocks for all systems and application software. They allow people to tell computers what to do and are the means by which software systems are developed. The five generations of programming languages that communicate instructions to the computer's central processing unit are machine languages, assembly languages, procedural languages, nonprocedural languages and natural programming languages. But there are a handful of newer programming languages to look at.

Programming languages that are used within a graphical environment are often referred to as *visual programming languages*. These languages use a mouse, icons, symbols on the screen, or pull-down menus to make programming easier and more intuitive. Visual Basic and Visual C++ are examples of visual programming languages. Their

ease of use makes them popular with nontechnical users, but the languages often lack the specificity and power of their nonvisual counterparts. Although programming in visual languages is popular in some organizations, the more complex and mission-critical applications are usually not written in visual languages.

Hypertext Markup Language. Hypertext is an approach to data management in which data are stored in a network of nodes connected by links (called hyperlinks). Users access data through an interactive browsing system. The combination of nodes, links, and supporting indexes for any particular topic is a hypertext document. A hypertext document may contain text, images, and other types of information such as data files, audio, video, and executable computer programs.

Extensible Markup Language (XML) is designed to improve the functionality of Web documents by providing more flexible and adaptable information identification. XML describes what the data in documents actually mean. XML documents can be moved to any format on any platform without the elements losing their meaning. That means the same information can be published to a Web browser, a PDA, or a smart phone, and each device would use the information appropriately. Notice that HTML only describes where an item appears on a page, whereas XML describes what the item is.

The Virtual Reality Modeling Language (VRML) is a file format for describing three-dimensional interactive worlds and objects. It can be used with the World Wide Web to create three-dimensional representations of complex scenes such as illustrations, product definitions, and virtual reality presentations. VRML can represent static and animated objects, and it can have hyperlinks to other media such as sound, video, and image.

Object-oriented programming (OOP) languages are based on the idea of taking a small amount of data and the instructions about what to do with that data (these instructions are called methods in object-oriented programming) and putting both of them together into what is called an object. This process is called encapsulation. When the object is selected or activated, the computer has the desired data and takes the desired action. This is what happens when you select an icon on your GUI-equipped computer screen and click on it. That is, in object-oriented systems, programs tell objects to perform actions on themselves. For example, windows on your GUI screens do not need

to be drawn through a series of instructions. Instead, a window object could be sent a message to open at a certain place on your screen, and the window will appear at that place. The window object contains the program code for opening and placing itself.

A disadvantage of object-oriented programming, however, is that defining the initial library of classes is very time-consuming, so that writing a single program with OOP takes longer than conventional programming. Another disadvantage is that OOP languages, like visual programming languages, are somewhat less specific and powerful, and require more time and memory to execute than procedural languages. Popular object-oriented programming languages include Smalltalk, C++, and Java.

Java is an object-oriented programming language developed by Sun Microsystems. The language gives programmers the ability to develop applications that work across the Internet. Java can handle text, data, graphics, sound, and video, all within one program. Java is used to develop small applications, called applets, which can be included in an HTML page on the Internet. When the user uses a Java-compatible browser to view a page that contains a Java applet, the applet's code is transferred to the user's system and executed by the browser. Java becomes even more interesting when one considers that many organizations are converting their internal networks to use the Internet's TCP/IP protocol. This means that with a computer network that runs the Internet protocol, applications written in Java can be stored on the network, downloaded as needed, and then erased from the local computer when the processing is completed. Users simply download the Java applets as needed, and no longer need to store copies of the application on their PC's hard drive.

Java can benefit organizations in many ways. Companies will not need to purchase numerous copies of commercial software to run on individual computers. Instead, they will purchase one network copy of the software package, made of Java applets. Rather than pay for multiple copies of software, companies may be billed for usage of their single network copy, similar to photocopying. Companies will find it easier to set information technology standards for hardware, software, and communications; with Java, all applications processing will be independent of the type of computer platform. Companies will have better control over data and applications because they can be

controlled centrally from the network servers. Software management (e.g., distribution and upgrades) will be much easier and faster.

The Unified Modeling Language (UML). Developing a model for complex software systems is as essential as having a blueprint for a large building. The UML is a language for specifying, visualizing, constructing, and documenting the artifacts (such as classes, objects, etc.) in object-oriented software systems. The UML makes the reuse of these artifacts easier because the language provides a common set of notations that can be used for all types of software projects [R. Kelly Rainer, E. Turban. *Introduction to Information Systems: Supporting and Transforming Business*].

Text 8 **Google Services**

Google, Inc., formed in 1998 as a simple search engine responding to 10,000 queries per day, has transformed into a multinational corporate leader providing over 30 widely used services with a search engine that now answers over 200 million queries per day. By combining information from its different services through Google cookies and other logging information, Google has the ability to create huge dossiers of personal information about its individual users.

Google's search engine stemmed from a Stanford PhD project, "BackRub" in 1996, and 9 years later, is the leading Internet search engine over others like Yahoo and MSN, answering over 35 percent of U.S. Internet searches and over 65 percent of international Internet searches. The success of Google's search engine can be attributed to its uncluttered interface, its unobtrusive advertisements, and most importantly, its trademarked ranking system, PageRankTM.

Google crawls the web and now indexes over 9 billion items. Google organizes web pages by their content – the frequency of words on a page, the position of words on the page, and the font size and capitalization of words. When a user makes a request on Google, Google uses content information to match the request. Google then combines a document's content information with its PageRank to determine the ordering of the sites returned to the user.

It is well-known that behind its simple interface, the Google search engine performs complicated algorithms on billions of existing

websites to maximize the quality of a user's search. However, what people do not realize is that the engine also collects and processes massive amounts of information about the individual searcher. Google records a "server log" every time a user makes a query with Google's search engine. The server log includes the user's cookies, IP address, browser type, browser language, data and time of request, and the search content.

Many computer networks today are connected to the Internet through Network Address Translation. With the increase of Internet users, especially within home and business networks and the way in which sections of the IP address spectrum are blocked and reserved for specific purposes, there are not enough available IP addresses. As a result, NAT allows for many computers on an internal network to connect to the Internet by sharing a single IP address through a router.

With the knowledge of a user's IP address, anyone can simply discover location information about that user. Many websites on the Internet exist providing a "who is" service, allowing a user to retrieve information about a particular IP address.

Whois Source provides a detailed description of your IP address, allowing a user to quickly and easily detect that you are located in the Boston area and that you use Verizon as your Internet service provider. Since Google records a user's IP address as part of its server log, it too can trace the geographic location of an individual user.

On Google's "Search Results" pages, Google records the fact that a user clicked on a link and that link's URL in order to determine how often users are satisfied with the first result of a query and how often they proceed to later results. Essentially, Google tracks "where" a user goes after he or she leaves Google's Results Pages.

The AdSense program, a Google service developed in 2003, allows a website to host contextualized advertisements, "AdWords", and generate revenue on a cost-per-click (CPC) basis. A website using AdSense integrates a piece of Javascript code into the site's HTML which allows Google to control the type, placement, and number of advertisements on that particular website. Google uses the content of the website to select appropriate advertisements for the website. Google factors the language of the site and the location of the visitors to enhance the relevancy of the advertisements. Google programs the type, language, and colors of the advertisements in the Javascript file.

Google determines the country, region, and city of the user and in doing so, chooses appropriate advertisements for the site. Google combines information from the content of the page with information from the user's IP address to target the ads to the user [S.A. Delichatsios, T. Sonuyi. *Get to Know Google... Because They Know You*].

Text 9

E-commerce Infrastructure

Infrastructure components can be considered fundamental information technology components, and are not necessarily unique to e-commerce. For e-commerce, these components may include the web server that delivers web pages to the consumer's browser, application servers, database servers, and any other underlying servers or devices (for example, network devices, etc.) connected to the cardholder data environment and/or providing support to the e-commerce infrastructure. The networking and operating system infrastructure supporting the merchant's systems such as firewalls, switches, routers, and any virtual infrastructure (e.g. hypervisors) are also included. This infrastructure can be distributed in a variety of ways such that part or all of it may be owned and managed by the merchant or hosted and maintained by a dedicated hosting company.

An e-commerce infrastructure typically follows a "three-tier computing" model with each tier, or layer, dedicated to a specific function, typically including 1) a presentation layer (web), 2) a processing layer (application), and 3) a data-storage layer.

E-commerce web servers are publically accessible and are used to present information such as web pages, forms, advertisements, and shopping cart contents to the consumer's web browser. Because web servers are publically accessible, sensitive or confidential information – such as payment card data – must never be stored on web servers. Web servers often communicate with other, more sensitive servers behind the firewall, particularly application and database servers.

Application servers perform a variety of processing functions and should never be publicly accessible. In most cases, consumers do not interact directly with application servers, as the application servers receive requests from the web server, to process, format, and prepare data for storage or transmission. Application servers may also receive

responses or retrieve content from database servers and pass the results back to the web server for presentation to the consumer.

The data-storage tier includes database servers and any other system or media used to store data. Since databases may store sensitive information, including payment card data, database servers must never be publically accessible. In a three-tier computing model, the database accepts requests from and provides responses to properly formatted and authenticated requests, made by an application server.

Typical components unique to e-commerce solutions include the following.

A “shopping cart” (also called a “shopping basket” or simply a “basket”) is software used by a merchant to assist consumers with making purchases online, allowing them to accumulate a list of items for purchase. The software finalizes the consumer’s purchase, often provides a means to capture the consumer’s payment information within the web application, and may provide other functions to help an e-commerce merchant manage an online store. In a scenario where the shopping cart collects payment information from consumers, the shopping cart software communicates with an application programming interface (API), which is often provided by the e-commerce payment processor. From there, the payment card data is transmitted to an e-commerce payment gateway and then forwarded on to the payment processor for payment authorization. There are several ways that a merchant may obtain shopping cart functionality including: 1) developing proprietary application code in-house, 2) buying custom application code developed by a third party, 3) buying or obtaining a standard shopping cart application, or 4) subscribing to a “hosted payment page” service from a web hosting provider and/or e-commerce payment gateway.

Secure Sockets Layer/Transport Layer Security (SSL/TLS) is used to encrypt information sent between the consumer and merchant, and between the merchant and e-commerce payment gateway. PCI Payment card data should be protected during transmission over open, public networks (to include the Internet). The proper implementation of SSL/TLS is one mechanism that can be used to meet this requirement. An indication that SSL is in place is the “HTTPS” prefix on the URL or address line of the web page that accepts payment card data. In addition, most browsers display a small padlock icon somewhere at

the top or bottom of the browser window (most often in the address bar). The presence of the padlock icon indicates that data is being encrypted, and the user can click on the padlock icon to obtain information about the site and its SSL certificate.

Network components provide connectivity and communication between different systems (for example, between application and database servers), and between the merchant, consumer, and e-commerce payment processor. The e-commerce supporting infrastructure includes all computers and networking technologies, such as web servers, application servers, database servers, routers, firewalls and intrusion-detection systems/intrusion-prevention systems (IDS/IPS), as well as any other technologies providing communication, processing, monitoring, or security functionality to the environment.

For larger e-commerce merchants and service providers, the supporting infrastructure may include integration tools for different technologies – for example, service-oriented architecture (SOA) – as well as technologies that facilitate e-commerce operations – for example, load balancing, SSL acceleration hardware, and content caches. Each environment will need to be thoroughly reviewed to ensure that all technologies are identified and secured appropriately [*E-commerce Special Interest Group PCI Security Standards Council. Information Supplement: PCI DSS E-commerce Guidelines, January 2013*].

Text 10 **Network Security**

The world is becoming more interconnected with the advent of the Internet and new networking technology. There is a large amount of personal, commercial, military, and government information on networking infrastructures worldwide. Network security is becoming of great importance because of intellectual property that can be easily acquired through the Internet.

There are currently two fundamentally different networks, data networks and synchronous network comprised of switches. The Internet is considered a data network. Since the current data network consists of computer based routers, information can be obtained by special programs, such as “Trojan horses,” planted in the routers. The synchronous network that consists of switches does not buffer data

and therefore are not threatened by attackers. That is why security is emphasized in data networks, such as the Internet, and other networks that link to the Internet.

System and network technology is a key technology for a wide variety of applications. Security is crucial to networks and applications. Although, network security is a critical requirement in emerging networks, there is a significant lack of security methods that can be easily implemented.

There exists a “communication gap” between the developers of security technology and developers of networks. Network design is a well developed process that is based on the Open Systems Interface (OSI) model. The OSI model has several advantages when designing networks. It offers modularity, flexibility, ease of use, and standardization of protocols. The protocols of different layers can be easily combined to create stacks which allow modular development. The implementation of individual layers can be changed later without making other adjustments, allowing flexibility in development. In contrast to network design, secure network design is not a well developed process. There isn’t a methodology to manage the complexity of security requirements. Secure network design does not contain the same advantages as network design.

When considering network security, it must be emphasized that the whole network is secure. Network security does not only concern the security in the computers at each end of the communication chain. When transmitting data the communication channel should not be vulnerable to attack. A possible hacker could target the communication channel, obtain the data, decrypt it and re-insert a false message. Securing the network is just as important as securing the computers and encrypting the message.

An effective network security plan is developed with the understanding of security issues, potential attackers, needed level of security, and factors that make a network vulnerable to attack. To lessen the vulnerability of the computer to the network there are many products available. These tools are encryption, authentication mechanisms, intrusion-detection, security management and firewalls. Businesses throughout the world are using a combination of some of these tools. “Intranets” are both connected to the Internet and reasonably protected from it. The Internet architecture itself leads to vulnerabilities in the

network. Understanding the security issues of the Internet greatly assists in developing new security technologies and approaches for networks with internet access and Internet security itself.

Typical security currently exists on the computers connected to the network. Security protocols sometimes usually appear as part of a single layer of the OSI network reference model. Current work is being performed in using a layered approach to secure network design. The layers of the security model correspond to the OSI model layers. This security approach leads to an effective and efficient design which circumvents some of the common security problems.

Data security is the aspect of security that allows a client's data to be transformed into unintelligible data for transmission. Even if this unintelligible data is intercepted, a key is needed to decode the message. This method of security is effective to a certain degree. Strong cryptography in the past can be broken today. Cryptographic methods have to continue to advance due to the advancement of the hackers.

When transferring ciphertext over a network, it is helpful to have a secure network. This will allow for the ciphertext to be protected, so that it is less likely for many people to even attempt to break the code. A secure network will also prevent someone from inserting unauthorized messages into the network. Therefore, hard ciphers are needed as well as attack-hard networks.

The cryptography occurs at the application layer; therefore the application writers are aware of its existence. The user can possibly choose different methods of data security. Network security is mostly contained within the physical layer. Layers above the physical layer are also used to accomplish the network security required. Authentication is performed on a layer above the physical layer. Network security in the physical layer requires failure detection, attack detection mechanisms, and intelligent countermeasure strategies [B. Daya. *Network Security: History, Importance, and Future*].

Text 11

Multimedia Works Software

The Multimedia Works software environment consists of three programs: Media Space, a multimedia database and research program; Multimedia Works Composer, a storyboarding and presentation pro-

gram; and Video Light Table, a direct manipulation video-clip editor. We initially designed Media Space and Multimedia Works Composer in Hypercard, then ported them to the Supercard environment to take advantage of the color and multiple windowing capabilities it offered. Supercard features, such as menu and window type controls and resource handling, greatly simplified the software development process and improved the user interface.

Media Space currently consists of more than 500 text, graphic, sound, animation, and video elements that can be searched using key words or browsed using a visual index. This database occupies approximately 30 Mbytes on a local hard disk. Media Space is made up of a variety of search and editing tools coupled with a multimedia database of digitized elements. The media elements serve as a resource for students' explorations of environmental topics such as climatic change, pollution, and endangered species. Students can browse through a variety of color pictures and black-and-white graphics, listen to samples of digitized sounds, read a variety of topical news stories from diverse journalistic and reference sources, or view a more limited selection of digital animations and video clips (analog sources). Students use Media Space in Multimedia Works both as a research tool to browse or systematically to search a wide array of photographic images, graphics, selected readings, and digitized sounds. Students access Media Space from the media palette.

The heart of *Multimedia Works Composer* is a powerful, easy-to-use multimedia composition and presentation tool. Multimedia Works Composer presents the user with a storyboard of 15 panels or media "scenes." A Multimedia Works composition consists of a number of such scenes to be played over time. Within the scenes, icons that represent media displays of different media elements are arranged spatially. A live storyboard of movable and editable media icons represents the document "filmstrip" made up of these scenes.

With tools to arrange media elements spatially and temporally, the Composer helps the user design the composition. Typically, students begin a new composition with a blank storyboard, then add different media elements to it by searching the Media Space database for appropriate elements. They also typically create their own elements with text and paint/drawing tools native to the Multimedia Works environment. They can create their own video clips (with the Video

Light Table, described later), sound clips (with Soundedit), and animation (Macromind Director). Students can select these tools from a menu within the Composer and then import the media files produced into their composition. Students create media elements by clicking on one of the five media type icons on the media-creation palette. For example, a user creating a text element is led through a dialog box process to name the text card; choose its scene; create the text; and change the text style or size.

Using the controls in the top left of the media palette, users can add media elements or delete them from a composition by placing them in the storyboard's numbered scenes. Once placed, the elements are represented by small icons called Media Boxes, which are color-coded to distinguish the media types. Each media element's name appears on its colored Media Box. A scene can be viewed by clicking its numbered button, which highlights the border of the selected scene. Each media element in that scene is then displayed behind the foreground of the live storyboard. Users can reposition, crop, or enlarge the media elements in a scene to the desired size by directly manipulating the colored Media Boxes within the scene outline. Students can easily learn this technique of one-to-one mapping of storyboard icon to media element. The direct manipulation paradigm for human-computer interface design influenced its conception.

Users can also move media elements from scene to scene by dragging the Media Boxes from one scene to another in the scene outline. Users can play active elements such as sounds, videos, and animations by clicking on the media-distinctive "play" icon represented on the upper left corner of the element. Users can edit any media element by changing the style of its window from a display window to a fuller editing window, exposing the (limited) editing tools available for each type of media. For example, with text, users can control the font type and size. With sound, they can control the number of times (and with what volume) a sound will play when clicked. Double-clicking on its screen display changes the window style of a media element from a display view to an edit view, and clicking on the button located in the upper right corner of that element's edit view window returns it to display view.

Users can access the *Video Light Table* program under the video menu of the Multimedia Works Composer. We developed it because –

unlike text, graphics, and sound – there were virtually no easy-to-use video editors available for the Macintosh environment. (Recently, Macromind announced Media Maker, which has some of these capabilities, and Digital FIX announced Video FIX, which combines video hardware and software for middle-end professional editing. The more expensive Avid system includes extensive use of image compression software for digital video storage.) We first developed the Video Light Table for use with the Pioneer 4200 videodisc player. It also has drivers for Sony control-L protocol to allow for the common use of logging and editing 8 mm and VHS videotapes.

The user interface presents a log of the video as a spreadsheet of cels, as on a conventional light table. In each cel, a digitized frame serves as an icon for that segment of videotape and includes start and stop times for the video segment. Users control player and recorder control panels and buttons for video digitization and assembly edits from a floating palette. Users can also sequence video segments (for either playback or recording) by spatially sequencing the video cels in the order they wish to view or record. To rearrange the temporal order of the segments, the user simply grabs the cels with the mouse and moves them to the desired location. The Video Light Table window displays the change [R.D. Pea. *Learning through Multimedia*].

Text 12

Radio Frequency Identification

Radio frequency identification (RFID) has been used in a number of practical applications, such as improving supply chain management, tracking household pets, accessing office buildings, and speeding up toll collection on roadways. RFID is used to automatically identify people, objects, and animals using short range radio technology to communicate digital information between a stationary location (reader) and a movable object (tag).

RFID technology can be used to track products in a manner similar to using bar codes for product identification, but RFID also carries additional benefits. RFID does not require line of sight to read the tag, has a longer read range than bar code reader, and tags can store more data than bar codes. Readers can simultaneously communicate with multiple tags. This feature could allow customers to breeze through

grocery store checkout counters while a reader identifies all items in a shopping cart at the same time, instead of scanning each bar code individually.

RFID tags fall into two categories, active tags, which contain an internal power source, and passive tags, which obtain power from the signal of an external reader. Because of their lower price and smaller size, passive tags are more commonly used than active tags for retail purposes. A passive tag consists of a microchip surrounded by a printed antenna and some form of encapsulation, plastic laminates with adhesive that can be attached to a product or a small glass vial for implantation. The tag reader powers and communicates with passive tags. The tag's antenna conducts the process of energy capture and ID transfer. A tag's chip typically holds data to identify an individual product, the product model and manufacturer.

Although applications of RFID have become more widespread in recent years, radio frequency identification is not a new technology. RFID has been in use for several decades and an early version of the technology was used by British Allied forces in World War II to identify "friend or foe" aircraft. In the 1960s Los Alamos National Laboratory research led to the use of RFID in employee badges for automatic identification, to limit access to secure areas, and to make the badges difficult to forge.

Public awareness of RFID was heightened in recent years when the U.S. Department of Defense (DoD) and retail giant Wal-Mart required their suppliers to use RFID technology. Wal-Mart's mandate required its top 100 suppliers to use RFID tags on cases and pallets of products. The technology enables the company to track products as they move through distribution centers and into stores, allowing for better inventory tracking and improved efficiency in the supply chain. Wal-Mart's CIO recently stated that using RFID has resulted in a 26 percent reduction in out of stocks in the stores with RFID capabilities, and out of stock items that are replenished three times faster than those items not RFID tagged.

RFID tagging at case- and pallet-level has been adopted to improve supply chain management by several food and consumer goods retailers, including Best Buy, Target and Wal-Mart (U.S.), Tesco (U.K.), and Metro (Germany), but product-level tagging has not been widely adopted. Widespread use of RFID at the item or product level

has been slowed due to both cost and privacy concerns. The cost of passive RFID tags fell to about 7.9 cents each when purchased in quantities of one million. Though prices have fallen, placing RFID tags individual items may still be impractical for many inexpensive consumer products, but could be cost effective for more expensive items like clothing.

RFID technology has several applications that extend beyond the retail sector. RFID tags are embedded in passports for security and personal identification and in ID cards to control access to buildings. Tags are also used for electronic payment for transportation (i.e., E-ZPass and Chicago Transit Authority's Chicago Card) and other payment systems, such as credit cards and smart cards. RFID also has several medical uses including tracking of newborns in hospitals, storing information on surgical patients and procedures, and tracking medical equipment.

Privacy concerns represent one of the largest barriers to widespread adoption of RFID technology. Consumers fear that their movements could be tracked after leaving a store if RFID tags are used on individual products and not removed at the time of purchase. Consumers have also voiced concern over having their buying habits automatically tracked. Certain countermeasures have been developed to address concerns of privacy invasion. EPCglobal has designed a kill switch in their tags that would allow vendors to permanently disable a tag at point of sale. RSA Security has developed a "Blocker Tag" which basically acts as a shield to prevent RFID tags from being read.

Concerns over invasion of privacy have prompted several states to draft legislation concerning the use of RFID. Pending legislation in California, Senate Bill 1834, limits the amount of information on the tag. Pending Massachusetts legislation, House Bill 1447 and Senate Bill 181, requires labels and logos to inform consumers about the use and purpose of RFID on products and readers. The legislation requires the ability to remove tags that are not essential to the product and limits the information stored on tags to inventory and similar purposes.

IEEE-USA has a position paper regarding the use of RFID. Issues addressed include building RFID systems on the concepts of openness and transparency and using appropriate layered levels of protection and security with regard to RFID systems and the information they collect [*B. Hoang, A. Caudill. RFID*].

TAPESCRIPTS

Tapescript 1A

The Advantages of Information Technology

With improvements in information technology, globalization has increased. The world is brought closer, and the world's economy is quickly becoming a single interdependent system. Communication has become an easier, cheaper, and faster system with the help of information technology. Using the Internet, people can speak to each other all over the world using video conferencing. Skype is one helpful application that allows users to communicate to other Skype users for free. Social media is also another area of communication available because of information technology. It is now easier than ever to share photos and information about your life with people you know all over the world. Businesses have become more cost effective for both themselves and their consumers using information technology. By streamlining, businesses increase their productivity. This pays out to greater profits, which allows companies to offer better pay and less strenuous working conditions. Along with making businesses more cost effective, information technology allows businesses to be within reach of consumers 24/7. If you decide you want to purchase a red sweater at five in the morning, you can easily log in on any online clothing retailers to purchase that red sweater. You can also save money on purchases by buying items located in different countries. Information technology has also created new jobs. Programmers, systems analyzers, hardware and software developers, and web designers all owe their jobs to information technology. Without such advances, these jobs would not exist.

Tapescript 1B

The Disadvantages of Information Technology

Unfortunately, along with the creation of new and interesting jobs, information technology has also led to a rise in unemployment. By streamlining the business process, job redundancies, downsizing, and outsourcing have occurred. Many people also credit information technology with a lack of job security. As new technology is released and jobs require more and more training, it is important for employees to stay in a learning mode in order to keep their job. Changes in technology make it difficult for older employees to adapt as quickly as their younger peers. Although information technology continuously works on making things more secure, there is still a great lack of privacy. Cell phones have been known to be intercepted, and email addresses can be hacked. It is also believed that along with opening a great communication window, information technology has begun to create a dominant culture. English has slowly become the primary mode of communication for business and other communication areas.

Tapescript 2A
Working Conditions of IT Specialists

Computer specialists and programmers, network analysts, and database administrators normally work in offices or laboratories in comfortable surroundings. They usually work about 40 hours a week – the same as many other professional or office workers do. However, evening or weekend work may be necessary to meet deadlines or solve specific problems. With the technology available today, telecommuting is common for computer professionals. As networks expand, more work can be done from remote locations through modems, laptops, electronic mail, and the Internet. Computer support specialists and systems administrators constantly interact with customers and fellow employees as they answer questions and give valuable advice. Those who work as consultants are away from their offices much of the time, sometimes spending months working in a client's office.

Tapescript 2B
Systems Analysts

Computer systems analysts assist businesses with solving their computer needs. After assessing the requirements of the business and the resources available, they plan computer systems and networks tailored to serve the business' unique interests. This may include modifying existing software or creating new software to manage company functions. Many systems analysts stay competitive by specializing in computer systems that correlate to one particular area of employment, such as accounting and financial systems. For many entry-level systems analyst positions, a Bachelor's degree in an information technology field is acceptable. Those working in more technical or scientific environments may need a more technically-oriented degree such as computer science or engineering. For potential analysts seeking a career in a business environment, a background in business administration or information management may be preferable. A graduate degree can be helpful in seeking senior-level analyst positions.

Tapescript 3A
Microprocessors

The processor of a device is designed for a general purpose and is able to run any sort of program. However, a microprocessor is a special form of CPU, used in microcomputers and small computerized devices. It is important to remember that when they are used in small computerised devices, they are designed to carry out a specific task and will only ever carry out that task, such as the control circuit of a burglar alarm. All the computers, such as mainframes, personal computers and laptops can perform a wide variety of tasks; they can be programmed to a great extent. In comparison, a washing machine is just a washing machine and will have a limited number of functions for which it was designed – washing your clothes. There are many home devices that are controlled or powered by a microprocessor, but are de-

signed, programmed and built to fulfil only a specific task, for example, a refrigerator, microwave oven or DVD player.

Tapescript 3B

Desktop

The desktop is the screen that appears after you boot up, or turn on your computer. It shows a number of icons on a background picture or colour. When you buy a new computer and boot up for the first time, the desktop will only show a small number of icons. In the Windows operating system, these usually include *My Computer* and the *Recycle Bin*. Double-clicking on an icon with the mouse opens a computer program, a folder or a file. Folders usually contain other files. You can move icons around the desktop, add new ones or remove them by deleting them. Deleted files go to the *Recycle Bin*. People usually put the programs they use most often on the desktop to find them quickly. When you double-click on *My Computer* another screen appears. This screen shows the *A:* drive icon, for disks; the *C:* drive icon, which usually contains all of the main programs and folders on your computer; the *D:* drive icon, which is usually the CD-ROM drive, and the Control Panel folder. When you double-click on *Control Panel*, another screen appears that shows many other icons, such as the Display icon and the *Date/Time* icon. Double-clicking on *Display* opens a box that lets you personalize your desktop by changing the screen saver (the moving image that appears when no one is using the computer) or the background picture.

Tapescript 4A

A Computer Keyboard

A computer keyboard is one of the primary input devices used with a computer that looks similar to those found on electric typewriters, but with some additional keys. The modern keyboard is based on the typewriter, a typing device that was first developed and patented in 1868 by Christopher Sholes. Keyboards allow you to input letters, numbers, and other symbols into a computer that often function as commands. The major key sections of a keyboard include the control keys, function keys, LED indicators, wrist pad, arrow keys, and keypad. Most desktop computer keyboards are connected to the computer using either USB or Bluetooth for wireless communication. Today, most keyboards are similar to each other, but may be missing one or more of the sections mentioned earlier (e.g. the keypad). A laptop keyboard is different from a desktop keyboard to help reduce the size and the overall weight of the laptop. Most laptop keyboards are made smaller by placing the keys closer to each other and not always including control keys or a keypad. Another difference with a laptop keyboard is the type of switch beneath each key or how the keys feel when pressed down. Some users may even experience more typing errors when typing on a laptop because of how easy it can be to press another key next to the key you intended to press. Today's tablet computers do not come with a physical keyboard, although it is an optional add-on. These devices utilize a thumb keyboard or on-screen keyboard to type messages and other texts.

Tapescript 4B
A Computer Mouse

Originally referred to as an X-Y Position Indicator for a Display System, a mouse is a hardware input device invented by Douglas Engelbart in 1963 while working at the Xerox Palo Alto Research Center in California, USA. A mouse allows an individual to control a pointer in a graphical user interface and manipulate on-screen objects such as icons, files, and folders. By using a mouse, the user does not have to memorize commands. A Windows user has to double-click a file to view its contents. After its inception at the Stanford Research Institute Xerox applied the mouse to its revolutionary Alto computer system in 1973. Due to Alto's lack of success, the first widely used application was with the Apple Lisa computer. Today, this pointing device is found on every computer. The types of computer mice are a wireless mouse, a foot mouse, a wheel mouse, a J-mouse, a joystick, an optical mouse, a touchpad mouse and others. Most computer mice are connected to a computer using a USB port. The most common functions of a mouse are as follows. The primary use of a computer mouse is to move the mouse cursor on the screen. Once you have moved the mouse to an icon, folder, or other objects, clicking or double clicking that object opens the document or executes the program. A mouse allows you to select a file or highlight multiple files at once. When working with a long document or viewing a long web page, you may need to scroll up or down on that page. Using a mouse wheel, clicking and dragging the scroll bar are other functions of the mouse.

Tapescript 5A
Graphical User Interfaces

Graphical user interfaces (GUIs) use pictures and symbols rather than having to type in a number of commands. All the commands are programmed into the GUI. This means that users do not have to learn and remember a lot of commands – they just need to know what actions the icons represent. You can see GUIs on your Mp3 players, gaming devices, digital cameras and mobile phones as well as on your computers. The type of GUI will depend on the device you are using. One of the most common GUIs is the WIMP interface. WIMP stands for Windows, Icons, Menu and Pointing device. It uses a mouse (or similar device) to control a cursor, which can be used to select icons that open and run programs. Many programs can be selected to run at the same time. To make it easy to find programs that are open and running, the operating system places each file in a separate window. Many windows can be displayed at the same time. This might make it difficult to work with, so it is possible to “minimize” a window to the area at the bottom of the screen: the program stays open, but you can choose when to bring the window up on the screen again. There are other GUIs that do not rely on a cursor to select an icon. You have probably seen, and used, a touchscreen device to select icons, open programs and change the layout. Touchscreen devices are newer, allowing users to scroll, pinch and rotate images and documents using fingers and thumbs. This type of action would be difficult using a simple mouse. Touchscreens are a common feature in small, portable devices. They

are becoming popular on large desktop screens, on laptops and are the primary way of operating tablet computers.

Tapescript 5B **Linux**

Linux is a free and open-source operating system developed by Linus Torvalds. It was first announced on August 25, 1991. The Linux kernel runs on numerous different platforms including the Intel and Alpha platforms. The system can be distributed, used, and expanded free of charge. In this way, developers have access to all the source codes, thus being able to integrate new functions or to find and eliminate programming bugs quickly. Thereby drivers for new adapters (SCSI controller, graphics cards, etc.) can be integrated very rapidly. Presently, Linux is successfully being used by several millions of users worldwide. The composition of users varies from private users, training companies, universities, research centers, and companies. Today Linux is used in Android phones and tablets, TV, Cameras, DVD players, Amazon, Google, planes, U.S. Postal service, the New York Stock Exchange and others. Linux may be obtained in two different ways. All the necessary components can be downloaded free of charge from the Internet, which means an operating system can be assembled for almost nothing. An alternative is to use a so-called distribution, which is a Linux variation offered by many companies. They include a wide range of applications and full programs that significantly simplify the installation of Linux. There are hundreds of different distributions of Linux that have been released.

Tapescript 6A **Desktop Publishing Programs**

The tools and commands in DTP programs give you a great deal of control over text. For example, you can make word and character changes, such as changing the space between words in a text without changing the font size. These choices are useful when you only have a small space to work in. These programs also let you make a template of your document so you do not have to remake the whole document each time you want to change the text or the pictures. Many DTP programs let you change the file format of your design into a Web page, too. DTP programs, such as Adobe PageMaker and QuarkXPress, let you combine text and graphics in creative ways to produce stylish greeting cards, holiday brochures, business cards, newsletters, calendars and many other documents. While DTP programs and word-processing programs have a lot of similar commands and tools, DTP programs have one important advantage: what you see on the screen is exactly what you get when you print your document. Desktop Publishing (DTP) programs let you work with graphics: you can draw shapes, fill them with text or colour, insert graphics or special characters from the program, or import them from another program, and you can move them all easily around the page. There are many things you can do with text and graphics: you can use an align command to put them in a straight line, horizontally or vertically, and a rotate tool lets you turn them around. You can bring text to the front of a shape or

graphic or send it to the back so that you can't see it. You can also wrap text around a picture or inside a shape, like in this reading.

Tapescript 6B **Web Browser**

Short for Web browser, a browser is a software application used to locate, retrieve and display content on the World Wide Web, including Web pages, images, video and other files. As a client/server model, the browser is the client run on a computer that contacts the Web server and requests information. The Web server sends the information back to the Web browser which displays the results on the computer or other Internet-enabled device that supports a browser. Today's browsers are fully-functional software suites that can interpret and display HTML Web pages, applications, JavaScript, AJAX and other content hosted on Web servers. Many browsers offer plug-ins which extend the capabilities of the software so it can display multimedia information (including sound and video), or the browser can be used to perform tasks such as videoconferencing, to design web pages or add some security features to the browser. The two most popular browsers are Microsoft Internet Explorer and Firefox. Other major browsers include Google Chrome, Apple Safari and Opera. While most commonly use to access information on the web, a browser can also be used to access information hosted on Web servers in private networks. Also, there are a number of browsers that are designed to access the Web using a mobile device. A mobile browser, also called a microbrowser, is optimized to display Web content on smaller mobile device screens and to perform efficiently on these computing devices, which have far less computing power and memory capacity as desktop or laptop. Mobile browsers are typically "stripped down" versions of Web browsers and offer fewer features in order to run well on mobile devices.

Tapescript 7A **Ruby**

Ruby is a dynamic, open-source, object-oriented programming language developed by computer scientist Yukihiro Matsumoto in the 1990s, which makes it one of the youngest languages in broad use, much less in this roundup. It was designed to have syntax that was easy to read and to write by mere humans, without necessarily needing to learn a massive base of commands and specialized "vocabulary" in order to get started. While the language itself is object-oriented, it also supports procedural, functional, and imperative programming, one of the factors that makes it remarkably flexible. Ruby has a reputation for being relatively easy to learn, with a 20-minute quick start guide available on the language's official website that can get you up and familiar with some of its basics in a really short period. Fans of languages like Perl and Python will find some similarities to enjoy. Those of you who nominated Ruby praised it for being easy to understand and easy to learn, easy to read when you have to, and for having a large, active, passionate developer community that is committed to the success of the language.

Tapescript 7B

Python

When people discuss the first programming languages and which languages are easier for people to pick up quickly, Python inevitably comes up. It was developed in the 1980s by Guido van Rossum, who then handed the language over to the non-profit Python Software Foundation, which serves as the language's administrator, and the language is open source and free to use, even for commercial applications. Python is usually referred to as a scripting language, although it has non-scripting uses. It allows programmers to churn out large quantities of easily readable and functional code in short periods of time, but it is also dynamic, and supports object-oriented, procedural, and functional programming styles, among others. Thanks to its flexibility, Python is one of the most widely used high-level programming languages today. Python does not exactly start you at the basics, but it does teach some useful things like indentation, modularity, and the importance of naming conventions that will help you as you learn and work with other languages.

Tapescript 8A

What Is the Internet?

The Internet is a worldwide system of interconnected computer networks that use the TCP/IP set of network protocols to reach billions of users. The Internet began as a U.S. Department of Defense network to link scientists and university professors around the world. A network of networks, today, the Internet serves as a global data communications system that links millions of private, public, academic and business networks via an international telecommunications backbone that consists of various electronic and optical networking technologies. Decentralized by design, no one owns the Internet and it has no central governing authority. As a creation of the Defense Department for sharing research data, this lack of centralization was intentional to make it less vulnerable to wartime or terrorist attacks. The terms *Internet* and *World Wide Web* are often used interchangeably; however, the Internet and World Wide Web are not one and the same. The Internet is a vast hardware and software infrastructure that enables computer interconnectivity. The Web, on the other hand, is a massive hypermedia database – a collection of documents and other resources interconnected by hyperlinks. The World Wide Web as the platform allows one to navigate the Internet with the use of a browser such as Google Chrome or Mozilla Firefox.

Tapescript 8B

Internet Service Provider

An ISP (Internet service provider) provides access to the Internet. Whether you are at home or work, each time you connect to the Internet, your connection is routed through an ISP. Early ISPs provided the Internet access through dial-up modems. This type of connection took place over regular phone lines. In the late 1990s, ISPs began offering faster broadband Internet access via DSL and cable modems. Some ISPs now offer high-speed fiber connections, which provide Internet access

through fiber optic cables. To connect to an ISP, you need a modem and an active account. When you connect a modem to the telephone or cable outlet in your house, it communicates with your ISP. The ISP verifies your account and assigns your modem an IP address. Once you have an IP address, you are connected to the Internet. You can use a router to connect multiple devices to the Internet. Since each device is routed through the same modem, they will all share the same public IP address assigned by the ISP. ISPs act as hubs on the Internet since they are often connected directly to the Internet backbone. Because of the large amount of traffic ISPs handle, they require high bandwidth connections to the Internet. To offer faster speeds to customers, ISPs must add more bandwidth to their backbone connection in order to prevent bottlenecks. This can be done by upgrading existing lines or adding new ones.

Tapescript 9A **Mobile Phone**

A mobile phone is a wireless handheld device that allows users to make calls and send text messages, among other features. When the first mobile phones were introduced, their only function was to make calls, and they were so bulky that it was impossible to carry them in a pocket. Later, mobile phones belonging to the Global System for Mobile Communications (GSM) network were capable of sending and receiving text messages. As these devices evolved, they became smaller and more features were added, such as multimedia messaging service (MMS), which allowed users to send and receive images. Most of these MMS-capable devices were naturally equipped with cameras, which allowed users to capture photos with the built-in camera, add captions, and send them to friends and relatives who also had MMS-capable phones. A mobile phone with highly advanced features is called a smartphone, while a regular mobile phone is known as a feature phone. Today's mobile phones are packed with many additional features, such as Web browsers, games, cameras, video players and even navigational systems. A mobile phone typically operates on a cellular network, which is composed of cell sites scattered throughout cities, countrysides, and even mountainous regions. If a user happens to be located in an area where there is no signal from any cell site belonging to the cellular network provider, he or she is subscribed to, calls cannot be placed or received in that location.

Tapescript 9B **Netiquette**

The online community has its own culture and customs. Good Internet behaviour is called Netiquette. The Internet is an international means of communication where you can talk to people online. Asking questions is fun but making jokes about people from other cultures can lead to misunderstanding and bad feelings. Sending hurtful or insulting messages, or flames, to people is bad behaviour. Bad language is not cool. Everyone is happy when people are friendly. Netiquette includes more than good spelling and grammar. Typing in all upper case is bad as it is the same as SHOUTING. Not starting your sentences with capital letters is lazy. Sending e-mails with "Hello" and "Thank you" is nice. The Golden Rule is "Treat others in the same

way that you like to be treated.” Remember, real people read what you type! It is also bad Netiquette to send people spam. This kind of unsolicited e-mail means people have to cancel something that they did not ask for in the first place. When you use Cc: instead of Bcc: you send other people’s e-mail addresses without their permission. This is an invasion of their privacy and breaks the Golden Rule.

Tapescript 10A

Password Protection

Most password schemes use tables to store the current password for each authorised user. These tables will be stored on a disk and will be backed up along with other vital system files, and in addition may be printed out in a dump of system files. For this reason password lists should not be stored in plain form but should be encrypted, and held in an irreversibly transformed state. Each user in an organisation who is permitted to access a company database is issued with a user ID and a password, which will normally give them a certain level of access rights set by the database manager. Common rules issued by companies regarding passwords include the following: a) passwords must be at least 6 characters; b) password display must be automatically suppressed on screen or printed output; c) files containing passwords must be encrypted. All users must ensure that their password is kept confidential, not written down, not made up of easily-guessed words and is changed regularly, at least every 3 months. When a user types a password at a keyboard, the password is usually concealed in some way, for example by not echoing it on the screen. However, it can still be observed by wiretapping. Passwords can be protected during transmission by encrypting them, but this is costly.

Tapescript 10B

How to Prevent Hacking

Computer hacking can occur in a number of ways. Your computer system itself can be hacked and mined for personal information. Your blog or website can be compromised if a hacker obtains your password. Your e-mail can be hacked if you click on a fraudulent link and you may not be able to retrieve your e-mail and other information you have registered in your account. Use these steps to safeguard your computer and prevent computer hacking. Perform required software updates for your operating system and web browser. Hackers attack where they see weakness. A system that has not been updated recently has flaws in it that can be taken advantage of by hackers. Go to the Microsoft Update website to download patches and secure the most recent version of your operating system. Install a firewall on your computer. Firewalls forbid outside threats such as hackers and viruses from gaining access to your system. Personalize your firewall settings during the setup process to reflect how much data you want to allow into your system from the Internet, and update your firewall regularly. Change your passwords often. Use a different password for each website you regularly log into, and make sure your passwords are long and intricate so that they are harder to guess. It is especially important to keep your banking and other financial accounts secure. Purchase or download antivirus software. Many computers

come pre-installed with certain antivirus software, but if not, or if you want more powerful software, research online to find what product suits you. Antivirus software is crucial to keep your computer healthy. A “sick” computer, or one racked with viruses, is more susceptible to hacking. Set your preferences so your antivirus software updates automatically.

Tapescript 11A
Rich Media

Rich media is a term referring to digital, interactive multimedia programs, the newest type of multimedia, most often found online via company websites or social networks. Rich media involves a combination of sound, pictures, animations, and video with integrated interactivity so that users, by pointing and clicking, can access online information as they desire. Rich media, because of its use of video and animation, can be built in two different formats. The first type is downloadable, which means Internet users can download the presentation and view it with a media player of their own, such as Apple’s Quick-Time, Microsoft’s Media Player, or Real Network’s Real-Player. The second type of rich media is embedded into a website, meaning that it does not need to be downloaded, only accessed by the online user. This involves more cost on the producer’s part, but makes it easier for users to have a seamless, interactive experience. As the use of rich media increases, so do the benefits and complications. More and more companies are making use of rich media as marketing tools and training programs. However, downloadable media is dependent on its format, and problems can arise when transmitting rich media from one player to another. Animations and audio files may play differently from one media player to another. A successful rich media presentation will be interesting, informative, and easily accessed by any user.

Tapescript 11B
Hypermedia

Hypermedia is an extension to what is known as hypertext, or the ability to open new web pages by clicking text links on a web browser. Hypermedia extends upon this by allowing the user to click images, movies, graphics and other media apart from text to create a nonlinear network of information. The term was coined by Fred Nelson in 1965. Hypermedia allows links to be embedded in multimedia elements like images and videos. Although the Internet is the best example of the use of hypermedia, there is a lot of software that makes use of both hypermedia and hypertext. A lot of word processing, spreadsheet and presentation software like Microsoft Office allow hypermedia and hypertext to be embedded into the documents created. For example, in Microsoft Word, users can add hyperlinks to any word and even add links to pictures. Microsoft PowerPoint has the same feature for hypermedia. This type of interaction is becoming increasingly common in the business world. As more people internationally gain access to hypermedia, companies are beginning to develop multimedia presentations to communicate their visions, opportunities, training, and updates.

Tapescript 12A

Flash Drive

A flash drive is a small, ultra-portable storage device which, unlike a traditional hard drive, has no moving parts. Flash drives connect to computers and other devices via a built-in USB Type-A plug, making a flash drive a kind of combination USB device and cable. Flash drives are often referred to as pen drives, thumb drives, or jump drives. The terms USB drive and solid state drive (SSD) are also sometimes used but most of the time those refer to larger and not-so-mobile USB-based storage devices. To use a flash drive, just insert the drive into a free USB port on the computer. On most computers, you will be alerted that the flash drive was inserted and the contents of the drive will appear on the screen, similar to how other drives on your computer appear when you browse for files. Exactly what happens when you use your flash drive depends on your version of Windows or other operating system, and how you have your computer configured. Most flash drives have a storage capacity from 8 GB to 64 GB. Smaller and larger flash drives are also available but they are harder to find. One of the first flash drives was just 8 MB in size. The largest one is a USB 3.0 flash drive with a 1 TB (1024 GB) capacity. Flash drives can be written and rewritten to an almost unlimited number of times, similar to hard drives. Flash drives have completely replaced floppy drives for portable storage and, considering how large and inexpensive flash drives have become, they have even nearly replaced CDs and DVDs for data storage purposes.

Tapescript 12B

Digital Assistant

A digital assistant, also called a virtual assistant, is an application program that can understand natural language and complete electronic tasks for the end user. Such tasks, which might have been performed by a personal assistant or secretary in previous decades, include taking dictation, reading text or e-mail messages aloud, looking up phone numbers, anticipating requests, placing calls and reminding the end user about appointments. Popular digital assistants currently include Apple's Siri, Google Now and Cortana, the digital assistant built into Windows Phone 8.1. Today's digital assistants are programmed with artificial intelligence, machine learning and voice recognition technology. As the end user interacts with his digital assistant, the AI programming uses sophisticated algorithms to learn from data input and become better at predicting the end user's needs. Tomorrow's digital assistants will be built with more advanced cognitive computing technologies which will allow a digital assistant to understand and carry out multi-step requests and perform more complex tasks such as making a plane reservation. Digital assistants can be contrasted with another type of consumer-facing AI programming called smart advisors. Smart advisor programs are subject-oriented, while digital assistants are task-oriented.

GRAMMAR REFERENCE

(ГРАММАТИЧЕСКИЙ СПРАВОЧНИК)

Unit 1

1.1. Структура простого повествовательного распространенного предложения

В английском языке грамматические отношения между словами в предложении выражаются, главным образом, порядком слов и предлогами. Для английского предложения характерен фиксированный порядок слов: каждый член предложения имеет свое определенное место. В простом распространенном повествовательном предложении следующий порядок слов: 1) подлежащее, 2) сказуемое, 3) дополнение(-я), 4) обстоятельство(-а):

Peter (подлежащее)	received (сказуемое)	a letter (дополнение)	yesterday. (обстоятельство)
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Дополнения также располагаются в строго определенном порядке: 1) косвенное беспредложное (кому?, чему?), 2) прямое (кого?, что?), 3) косвенное предложное (с кем?, для кого?).

John gave *me a book*. = John gave *a book to me*.

He is translating *the text*.

She wrote *about her holiday*.

Место обстоятельства времени более свободно: оно может стоять в конце или в начале предложения. При наличии нескольких обстоятельств, они располагаются за глаголом или дополнением следующим образом: 1) обстоятельство образа действия, 2) обстоятельство места, 3) обстоятельство времени. Если обстоятельство времени выражено наречиями *always, usually, often, sometimes* и др., то оно обычно ставится перед смысловым глаголом.

We *often* spend Christmas with friends.

He did that job *last week*. = *Last week* he did that job.

She translated that text *with the dictionary at the university library yesterday*.

Определение может относиться к любому члену предложения, выраженному существительным.

1.2. Глагол *to be*

Глагол **to be** имеет значение *быть, находиться, пребывать (где-либо)*.

Спряжение глагола *to be*

	Утвердительная форма	Вопросительная форма	Отрицательная форма
Present Simple	I am (I'm) He is (He's) She is (She's) It is (It's)	Am I...? Is he...? Is she...? Is it...?	I am not (I'm not) He is not (isn't) She is not (isn't) It is not (isn't)
	We are (We're) You are (You're) They are (They're)	Are we...? Are you...? Are they...? Where are they?	We are not (aren't) You are not (aren't) They are not (aren't)
Past Simple	I was He was She was It was	Was I...? Was he...? Was she...? Was it...?	I was not (wasn't) He was not (wasn't) She was not (wasn't) It was not (wasn't)
	We were You were They were	Were we...? Were you...? Were they...? Where were they?	We were not (weren't) You were not (weren't) They were not (weren't)
Future Simple	I will / shall (I'll) be We will/shall (We'll)	Will / Shall I be...? Will/Shall we be...?	I will (shall) not (won't / shan't) be We will (shall) not (won't / shan't) be
	He will (He'll) be She will (She'll) be It will (It'll) be You will (You'll) be They will (They'll) be	Will he be...? Will she be...? Will it be...? Will you be...? Will they be...? Where will they be?	He will not (won't) be She will not (won't) be It will not (won't) be You will not (won't) be They will not (won't) be

John *is* busy now.
The pictures *are* ready.
Are you a member of this club?
I *was not* a student.
Was that book interesting?
He *will be* free tomorrow.
Will they *be* here?
Bob and I *are* friends.

Джон сейчас занят.
Рисунки готовы.
Вы *являетесь* членом этого клуба?
Я *не был* студентом.
Та книга *была* интересной?
Завтра он *будет* свободен.
Они *будут* здесь?
Я и Боб друзья.

1.3. Глагол *to have (got)*

1. Глагол **to have (got)** имеет значение *иметь, обладать*.
2. Форма настоящего простого времени (Present Simple) глагола **to have** имеет две формы: **have** – для 1-го и 2-го лица единственного числа и для всех

лиц множественного числа (*I, you, we, they*) и **has** – для 3-го лица единственного числа (*he, she, it*).

<i>We have a beautiful garden.</i>	<i>У нас есть красивый сад.</i>
<i>They have some money.</i>	<i>У них есть деньги.</i>
<i>She has a brother.</i>	<i>У нее есть брат.</i>
<i>My uncle has a car.</i>	<i>У моего дяди есть машина.</i>

Вопросительная и отрицательная формы глагола **to have** образуются при помощи вспомогательного глагола **do** (*I, you, we, they*) / **does** (*he, she, it*).

<i>“Do you have much time to prepare for your English classes?” – “No, I don’t usually have much time to do it.”</i>	<i>«У вас много времени для подготовки к занятиям по английскому языку?» – «Нет, у меня обычно мало времени для этого».</i>
<i>“Does she have much work to do in her office?” – “No, she doesn’t often have much work to do.”</i>	<i>«У нее много работы в офисе?» – «Нет, у нее редко бывает много работы».</i>

Отрицательная форма с глаголом **to have** может быть также образована при помощи отрицательного местоимения **no** *никакой*, которое ставится перед существительным, если говорящий хочет подчеркнуть отсутствие того, о чем идет речь.

<i>I have no friends.</i>	<i>У меня нет никаких друзей.</i>
<i>He has no time.</i>	<i>У него абсолютно нет времени.</i>

3. Форма прошедшего простого времени (Past Simple) глагола **to have** – **had**.

<i>She had long hair.</i>	<i>У нее были длинные волосы.</i>
<i>They had a nice house.</i>	<i>У них был хороший дом.</i>

Вопросительная и отрицательная формы глагола **to have** образуются при помощи вспомогательного глагола **do** в прошедшем времени – **did**.

<i>“Did you have many friends when you lived in Moscow?” – “No, I didn’t have many friends”.</i>	<i>«У тебя было много друзей, когда вы жили в Москве?» – «Нет, не много».</i>
<i>“Did you have enough time to answer all the questions?” – “No, I didn’t have enough time to do that.”</i>	<i>«У тебя было достаточно времени, чтобы ответить на все вопросы?» – «Нет, у меня не было достаточно времени для этого».</i>

Для образования отрицательной формы может также использоваться **no** (см. выше).

<i>He had no time to read that book.</i>	<i>У него абсолютно не было времени прочитать эту книгу.</i>
<i>They had no books on music.</i>	<i>У них не было никаких книг по музыке.</i>

4. Глагол **to have** в сочетании с рядом существительных утрачивает свое первоначальное значение *иметь* и употребляется для выражения процессов. Вопросительная и отрицательная формы Simple в подобных сочетаниях образуются при помощи вспомогательного глагола **do**:

to have breakfast завтракать, **to have lunch** обедать, **to have dinner (supper)** ужинать, **to have a meal** есть, кушать, **to have a cup of coffee** выпивать чашку кофе и др.;

to have a swim поплавать, **to have a walk** гулять, **to have a rest** отдыхать, **to have a holiday** отдыхать, проводить отпуск, **to have a party** устроить вечеринку, **to have a good time** хорошо проводить время и др.;

to have a bath принимать ванну, **to have a shower** принимать душ, **to have a wash** мыться.

He usually <i>has breakfast</i> at 7 o'clock.	Он обычно <i>завтракает</i> в 7 часов.
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He <i>doesn't</i> usually <i>have breakfast</i> at 7 o'clock.	Он обычно <i>не завтракает</i> в 7 часов.
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<i>Does</i> he usually <i>have breakfast</i> at 7 o'clock?	Он обычно <i>завтракает</i> в 7 часов?
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When <i>does</i> he usually <i>have breakfast</i> ?	Когда он обычно <i>завтракает</i> ?
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<i>I had</i> a good time in Moscow.	Я <i>хорошо</i> <i>провел</i> время в Москве.
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<i>I didn't</i> have a good time in Moscow.	Я <i>плохо (нехорошо)</i> <i>провел</i> время в Москве.
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<i>Did</i> you <i>have</i> a good time in Moscow?	Вы <i>хорошо</i> <i>провели</i> время в Москве?
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Where <i>did</i> you <i>have</i> a good time?	Где вы <i>хорошо</i> <i>провели</i> время?
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5. В разговорной речи для выражения значения *иметь, обладать* в настоящем времени употребляется форма **have got (has got)**.

<i>I have got (I've got)</i> a car.	У <i>меня</i> <i>есть</i> машина.
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<i>They have got (they've got)</i> a villa near the beach.	У <i>них</i> <i>есть</i> вилла рядом с пляжем.
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<i>She has got (she's got)</i> a job.	У <i>нее</i> <i>есть</i> работа.
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Вопросительная форма **have (has) got** образуется путем постановки глагола **have (has)** перед подлежащим.

<i>Have</i> you <i>got</i> a pen?	У <i>вас</i> <i>есть</i> ручка?
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<i>Has</i> she <i>got</i> a job yet?	У <i>нее</i> <i>уже</i> <i>есть</i> работа?
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<i>Has</i> your friend <i>got</i> a sister?	У <i>твоего</i> <i>друга</i> <i>есть</i> сестра?
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Отрицательная форма **have (has) got** образуется при помощи отрицательной частицы **not**, которая ставится непосредственно после глагола **have (has)**.

<i>We have not got (haven't got)</i> much patience.	У <i>нас</i> <i>мало</i> терпения.
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He <i>has not got (hasn't got)</i> a big family.	У <i>него</i> <i>небольшая</i> семья.
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<i>She has not got (hasn't got)</i> his phone number.	У <i>нее</i> <i>нет</i> номера его телефона.
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1.4 Конструкция *there + to be*

Конструкция *there + to be* служит для выражения наличия или отсутствия в определенном месте или в определенное время какого-либо предмета, лица, факта или явления. Предложения с такой конструкцией отвечают на вопрос – *Что есть (имеется) в данном месте?*

Утвердительная форма	Вопросительная форма	Отрицательная форма
1. <i>There is</i> a book on the table. – На столе <i>лежит</i> (находится) книга. <i>There are</i> some deposits of coal. – <i>Имеются</i> запасы угля. 2. <i>There were</i> some students in the room. – В комнате <i>были</i> студенты. 3. <i>There will be</i> a new department at the university. – В университете <i>будет</i> новая кафедра.	1. <i>Is there</i> a book on the table? <i>Are there</i> any deposits of coal? 2. <i>Were there</i> any students in the room? 3. <i>Will there be</i> a new department at the university?	1. <i>There is no</i> book on the table. <i>There are not</i> many deposits of coal. 2. <i>There were no</i> students in the room. 3. <i>There will be no</i> new department at the university.

На русский язык такие предложения обычно переводятся предложениями, начинающимися с обстоятельства места.

There is a house *on the top of the hill*. На *вершине холма* стоит дом.

There are a lot of people *at the meeting*. На *собрании* присутствует много людей.

Если в предложении с конструкцией **there + to be** отсутствует обстоятельство, то его перевод надо начинать со сказуемого.

There are some books. *Лежат* книги.

Выбор формы глагола в конструкции **there + to be** определяется грамматическим числом первого существительного, которое за ней следует.

There is a table and four chairs in the room. В комнате стол и четыре стула.

There are some plates and a vase on the table. На столе тарелки и ваза.

В отрицательных предложениях перед **much, many** и **any**, а также числительными вместо **no** употребляется **not**.

There are not many apples on the tree. На дереве немного яблок.

There are no apples on the tree. На дереве нет яблок.

Когда нас интересует местонахождение определенного лица или предмета, употребляется просто глагол **to be**.

The lamp is on the table. Лампа стоит на столе.

Но:

There is a lamp on the table. На столе стоит лампа.

1.5. Неопределенные и отрицательные местоимения (Indefinite and Negative Pronouns)

К числу неопределенных местоимений относятся **some, any, every** и их производные. Отрицательные местоимения представлены **no** и его производными.

1.5.1. Местоимения *some* и *any*

1. Как правило, **some** употребляется в утвердительных предложениях. В вопросительных и отрицательных предложениях **some** обычно заменяется на **any**:

а) **Some** и **any** употребляются вместо артикля как определения к существительному и обозначают неопределенное (небольшое) количество предметов или вещества. В этом случае они часто не переводятся на русский язык.

I need *some* stamps. Мне нужны *марки*.

Did you buy *any* apples? Ты купил *яблоки*?

They don't have *any* children. У них нет *детей*.

б) **Some** может переводиться *некоторый, какой-то, какой-нибудь, несколько* в утвердительных предложениях.

Some sports are very dangerous. *Некоторые* виды спорта очень опасны.

There were *some* people in the office. В офисе были *какие-то* люди.

I found *some* German books in the bookcase. В книжном шкафу я нашел *несколько* немецких книг.

в) **Any** переводится *какой-нибудь, сколько-нибудь* в вопросительных предложениях.

Have you seen *any* new films this month? Вы видели в этом месяце *какие-нибудь* новые фильмы?

Do you have *any* money? У вас есть *сколько-нибудь* денег?

г) **Any** переводится *никакой, ни один* в отрицательных предложениях.

There isn't *any* explanation for this. Этому нет *никакого* объяснения.

She doesn't have *any* book by this writer. У нее нет *ни одной* книги этого автора.

2. **Some** используется в специальных и общих вопросах, выражающих просьбу или предложение.

Where can I get *some* juice? Где я могу взять *сок*?

Would you like *some* coffee? Не хотите ли вы *кофе*?

Can I have *some* bread, please? Можно мне взять *хлеб*?

Could you give me *some* help? Не могли бы вы оказать мне *помощь*?

3. **Any** может употребляться в утвердительных предложениях со значениями *любой, всякий*.

You can buy this at *any* shop. Вы можете купить это в *любом* магазине.

4. **Any** также может использоваться в условных придаточных предложениях со значением *какой-нибудь*.

If you have *any* problems, let me know. Если у вас будут *какие-нибудь* проблемы, дайте мне знать об этом.

1.5.2. Местоимение *no*

Местоимение **no** имеет отрицательное значение *никакой, ни один* и поясняет существительное.

No man would do a thing like that. *Ни один* человек не сделал бы это.
No doctors can help him. *Никакие* врачи не могут ему помочь.

1.5.3. Местоимение *every*

Местоимение **every** имеет значения *каждый, все* и употребляется во всех типах предложений.

Are there planes to London **every** day? В Лондон самолеты летают *каждый* день?

1.5.4. Местоимения, производные от *some, any, no* и *every*

Some, any, no, every со словами **thing, body, one, where** образуют производные, которые употребляются самостоятельно, и к ним применимы те же правила, что и для местоимений **some, any, no, every**.

Тип предложения	<i>some, any, no, every</i> как прилагательные	Производные от <i>some, any, no, every</i> как существительные		
		+ <i>thing</i> предметы	+ <i>body/one</i> люди	+ <i>where</i> место
1. Утвердит. 2. Спец./ общ. вопрос (просьба)	some <i>какой-то, какой-нибудь, несколько</i>	something <i>что-то, что-нибудь</i>	somebody/some <i>кто-то, кто-нибудь, кое-кто</i>	somewhere <i>где-то, где-нибудь, куда-нибудь</i>
Вопросительное предложение	any <i>какой-то, какой-нибудь</i>	anything <i>что-нибудь</i>	anybody/anyone <i>кто-нибудь</i>	anywhere <i>где-нибудь, куда-нибудь</i>
Отрицательное предложение	any <i>никакой, ни один</i>	anything <i>ничего, ничто</i>	anybody/anyone <i>никто</i>	anywhere <i>нигде, нигде</i>
Утвердительное предложение	any <i>любой, всякий</i>	anything <i>все что угодно</i>	anybody/anyone <i>кто угодно</i>	anywhere <i>где угодно, куда угодно</i>
Условное придаточное предложение	any <i>какой-нибудь</i>	anything <i>что-нибудь</i>	anybody/anyone <i>кто-нибудь</i>	anywhere <i>где-нибудь</i>
Отрицательное предложение	no <i>никакой, ни один</i>	nothing <i>ничего, ничто</i>	nobody/no one <i>никто</i>	nowhere <i>нигде, нигде</i>
Все типы	every <i>каждый, все</i>	everything <i>все</i>	everybody/everyone <i>все, каждый</i>	everywhere <i>везде</i>

1.5.4.1. Something, somebody / someone, somewhere

1. В утвердительных предложениях:

Sally was upset about *something*.

I am hungry. I want *something* to eat.

There is *somebody/someone* at the door.

They went *somewhere*.

Сэлли *что-то* расстроило.

Я голоден. Я хочу *что-нибудь* поесть.

У двери *кто-то* стоит.

Они *куда-то* пошли.

2. В вопросах, выражающих просьбу или предложение:

Can I have *something* to eat?

Вы можете дать мне *что-нибудь* поесть?

Will *somebody/someone* help me?

Кто-нибудь поможет мне?

“Will you go *somewhere* this summer?” – “Yes, I will.”

«Вы *куда-нибудь* поедете этим летом?» – «Да».

1.5.4.2. Anything, anybody/anyone, anywhere

1. В вопросительных предложениях:

Is there *anything* in the box?

Did *anybody/anyone* see the football match yesterday?

Did you go *anywhere* for your holidays?

В коробке *что-нибудь* находится?

Кто-нибудь вчера смотрел футбольный матч?

Вы ездили *куда-нибудь* на каникулах?

2. В отрицательных предложениях:

He doesn't know *anything* about his father's work.

I wasn't talking to *anybody/ anyone*.

I'm not going *anywhere*.

Он *ничего* не знает о работе отца.

Я *ни с кем* не разговаривал.

Я *никуда* не иду.

3. В утвердительных предложениях:

You can have *anything* you want.

You can go *anywhere* you like.

Вы можете взять *все что угодно*.

Вы можете поехать *куда угодно*.

4. В условных придаточных предложениях:

Let me know if you need *anything*.

If *anybody/anyone* wants to know the answer, he can ask me.

Дайте мне знать, если вам *что-нибудь* понадобится.

Если *кто-нибудь* захочет узнать ответ, он может спросить меня.

1.5.4.3. Nothing, nobody/no one, nowhere

В отрицательных предложениях:

She said *nothing*.

Nobody/no one saw me.

I've been *nowhere* today.

Она *ничего* не сказала.

Никто не видел меня.

Сегодня я *нигде* не был.

1.5.4.4. Everything, everybody/everyone, everywhere

Во всех типах предложений:

He taught me <i>everything</i> I know.	Он научил меня <i>всему</i> , что я знаю.
<i>Everybody/everyone</i> knows what the answer is.	<i>Каждый</i> знает/ <i>все</i> знают, какой ответ.
Did you look <i>everywhere</i> for your key?	Вы <i>всюду</i> искали ключ?

1.6. Предлог (The Preposition)

Предлогами называются служебные слова, которые показывают отношение существительного или местоимения к другим словам в предложении. По значению предлоги можно разделить на следующие группы: а) предлоги места, б) предлоги направления и движения, в) предлоги времени и др.

1.6.1. Предлоги места (Prepositions of Place)

Предлоги места отвечают на вопрос – *Где находится предмет или лицо?*

- on** – *на* (местонахождение на поверхности)
There is a pen *on* the table. *На* столе лежит ручка.
- over** – *над* (местонахождение над другим предметом)
The picture is *above* the table. Картина висит *над* столом.
- under** – *под* (местонахождение под другим предметом)
There is a box *under* the table. *Под* столом стоит ящик.
- in** – *в* (местонахождение внутри ограниченного пространства)
The child is *in* the house. Ребенок находится *в* доме.
- at** – *у, на, в* (местонахождение у предмета, лица, а также там, где протекает определенный процесс)
The woman is *at* the door. Женщина стоит *у* двери.
- in front of** – *перед* (местонахождение предмета, лица впереди другого предмета)
I sit *in front of* the teacher's table. Я сижу *перед* столом учителя.
- behind** – *позади, сзади*
The hill is *behind* the house. Холм находится *позади* дома.
- across** – *через*
The school is *across* the street. Школа находится *через* улицу.

1.6.2. Предлоги направления и движения (Prepositions of Direction)

Предлоги направления и движения отвечают на вопросы – *Куда? Откуда?*

- to** – *к, в, на* (движение по направлению к предмету или лицу, протекающему процессу)
Let's go *to* the cinema. Давай пойдем *в* кино.
- into** – *в* (движение внутрь ограниченного пространства)

- Come *into* the classroom. Входите *в* класс.
3. **from** – *от, из, с, у* (движение от предмета или лица или с поверхности другого предмета)
Take my book *from* Jack. Возьмите мою книгу *у* Джека.
4. **out of** – *из* (движение из ограниченного пространства)
Take your pen *out of* your bag. Выньте ручку *из* портфеля.

1.6.3. Предлоги времени (Prepositions of Time)

at (часы/время) <i>в</i>	<i>at</i> 6 o'clock	<i>в</i> 6 часов
	<i>at</i> this time	<i>в</i> это время
on (дни)	<i>on</i> the 5th of May	5-го мая
	<i>on</i> Sunday	<i>в</i> воскресенье
	<i>on</i> the day off	<i>в</i> выходной день
	<i>on</i> a sunny day	<i>в</i> солнечный день
in <i>в</i> (месяцы, годы, сезоны, отрезки дня)	<i>in</i> August	<i>в</i> августе
	<i>in</i> 2014	<i>в</i> 2014 году
	<i>in</i> summer	летом
	<i>in</i> the morning (evening, afternoon)	утром (вечером, днем)
in <i>через</i>	<i>in</i> an hour	<i>через</i> час
	<i>in</i> two weeks	<i>через</i> две недели
	<i>in</i> a month	<i>через</i> месяц
by <i>к</i>	<i>by</i> 7 o'clock	<i>к</i> 7 часам
	<i>by</i> the end of October	<i>к</i> концу октября
since <i>с</i>	<i>since</i> 5 o'clock	<i>с</i> 5 часов
	<i>since</i> 1960	<i>с</i> 1960 года
for <i>в течение</i>	<i>for</i> three months	<i>в течение</i> трех месяцев
from ... to (till) <i>с ... до</i>	<i>from</i> May <i>to (till)</i> July	<i>с</i> мая <i>до</i> июля
up to (<i>вплоть до</i>)	<i>up to</i> the end of May	(<i>вплоть до</i>) <i>до</i> конца мая

1.7. Количественные местоимения *many, much, (a) few, (a) little* (Quantifiers)

1. Местоимение **many** *много* употребляется только с исчисляемыми существительными, а **much** *много* – с неисчисляемыми существительными. Они употребляются, главным образом, в отрицательных и вопросительных предложениях.

- There aren't *many* hotels in this town. В этом городе *немного (мало)* гостиниц.
- Does this company sell *many* computers? Эта компания продает *много* компьютеров?

- | | |
|----------------------------------|---------------------------------------|
| I haven't got <i>much</i> time. | У меня <i>немного</i> (мало) времени. |
| Do you drink <i>much</i> coffee? | Вы пьете <i>много</i> кофе? |
2. В утвердительных предложениях вместо **many, much** обычно употребляются другие выражения со значением *много*: **a lot of / lots of, plenty of**, используемые как с исчисляемыми существительными, так и неисчисляемыми.
- | | |
|--|---|
| She visited <i>a lot of</i> countries on her trip. | Во время своей поездки она посетила <i>много</i> стран. |
| Tom drinks <i>a lot of</i> milk. | Том пьет <i>много</i> молока. |
| There are <i>plenty of</i> things to see in this town. | В этом городе есть <i>много</i> , что можно посмотреть. |
| We've got <i>plenty of</i> time. | У нас <i>много</i> времени. |
3. **Many** и **much** могут использоваться в утвердительных предложениях:
- а) в функции подлежащего:
- | | |
|--|---|
| <i>Many</i> people have complained about that. | <i>Многие</i> люди жаловались по этому поводу. |
| <i>Much</i> money was spent on that business. | На этот бизнес было потрачено <i>много</i> денег. |
- б) если они определяются наречиями **very, too, how, so**:
- | | |
|---|---|
| The company has <i>very many</i> clients. | У компании <i>очень много</i> клиентов. |
| There are <i>too many</i> old buildings in this town. | В этом городе <i>слишком много</i> старых зданий. |
| We've had <i>so much</i> rain this year. | В этом году у нас было <i>так много</i> дождей. |
4. Местоимения **few** *мало* и **a few** *несколько* употребляются только перед исчисляемыми существительными, **a little** *мало* и **a little** *немного* – перед неисчисляемыми существительными.
- | | |
|--|--|
| He has <i>few</i> friends. | У него <i>мало</i> друзей. |
| We saw <i>a few</i> shops along this street. | На этой улице мы увидели <i>несколько</i> магазинов. |
| They have <i>little</i> money. | У них <i>мало</i> денег. |
| I take <i>a little</i> sugar in my coffee. | Я кладу <i>немного</i> сахара в кофе. |
5. **Much, a lot** *много* и **little** *мало, a little* *немного* имеют значение наречий, когда они определяют глагол.
- | | |
|--|--|
| She eats <i>very much</i> . | Она <i>очень много</i> ест. |
| He speaks German <i>a little</i> . | Он <i>немного</i> говорит по-немецки. |
| She knows <i>too little</i> to answer these questions. | Она знает <i>слишком мало</i> , чтобы дать ответ на эти вопросы. |

1.8. Имя числительное (The Numeral)

Числительные подразделяются на количественные, отвечающие на вопрос **how many?** *сколько?*, порядковые, отвечающие на вопрос **which?** *который по порядку?*, и дробные, служащие для выражения простых и десятичных дробей.

1.8.1. Количественные числительные (Cardinal Numerals)

Образование и написание количественных числительных.

1 – 12	13 – 19	20 – 90	от 100 и далее
1 one	<i>суффикс</i>	<i>суффикс</i>	100 a (one) hundred
2 two	-teen	-ty	101 a (one) hundred and one
3 three	13 thirteen	20 twenty	102 a (one) hundred and two
4 four	14 fourteen	21 twenty-one	200 two hundred
5 five	15 fifteen	22 twenty-two	1,000 a (one) thousand
6 six	16 sixteen	30 thirty	1,001 a (one) thousand and one
7 seven	17 seventeen	40 forty	1,032 a (one) thousand and
8 eight	18 eighteen	50 fifty	thirty-two
9 nine	19 nineteen	60 sixty	2,000 two thousand
10 ten		70 seventy	2,456 two thousand four
11 eleven		80 eighty	hundred and fifty-six
12 twelve		90 ninety	1,000,000 a (one) million
			1,000,000,000 a /one billion

Числительные **hundred, thousand, million** и **billion** употребляются с неопределенным артиклем **a** или числительным **one** и не имеют окончания множественного числа **-s**, если им предшествуют другие числительные. При написании словами и чтении в составных числительных после **hundred** всегда ставится союз **and** (перед десятками или единицами в пределах каждого трех разрядов).

247	two hundred <i>and</i> forty-seven
3,792	three thousand seven hundred <i>and</i> two
7,603,413	seven million six hundred <i>and</i> three thousand four hundred <i>and</i> thirteen

1.8.2. Порядковые числительные (Ordinal Numerals)

Образование и написание порядковых числительных.

1 – 3	4 – 19	20 – 90
1st first	<i>Суффикс -th</i>	<i>Суффикс -ieth</i>
2nd second	4th fourth	(-ty → -tieth)
3rd third	5th fifth	20th twentieth
	6th sixth	21st twenty-first
	7th seventh	22nd twenty-second
	8th eighth	30th thirtieth
	9th ninth	40th fortieth
	10th tenth	50th fiftieth
	11th eleventh	60th sixtieth

	12th twelfth 13th thirteenth 14th fourteenth 15th fifteenth 16th sixteenth 17th seventeenth 18th eighteenth 19th nineteenth	70th seventieth 80th eightieth 90th ninetieth
от 100 и далее		
100th hundredth 101st hundred and first 102nd hundred and second 200th two hundredth		300th three hundredth 1,000th thousandth 1,003rd thousand and third 1,000,000th millionth

Порядковые числительные употребляются с определенным артиклем **the**.
The first text is more difficult than *the second*. Первый текст труднее второго.

1.8.3. Дробные числительные (Fractional Numerals)

Простые дроби (Common Fractions)		Десятичные дроби (Decimal Fractions)
1/2 – a (one) half 1/3 – a (one) third 2/3 – two thirds 3/4 – three fourth	1/5 – a (one) fifth 2/5 – two fifth 1 1/2 – one and a half 2 2/3 – two and two thirds	0.1 – nought [nɔ:t] point one (or point one) 0.01 – nought point nought one (or point nought one) 1.42 – one point four two 23.506 – twenty-three point five nought six

1.8.4. Хронологические даты

1. Годы обозначаются количественными числительными и читаются по две цифры (кроме 2000 г. и далее).

1908 nineteen oh [əʊ] eight
1989 nineteen eighty nine
2015 two thousand and fifteen

2. Даты обозначаются порядковыми числительными.

16 August, 1998 (*BrE*) the sixteenth of August, nineteen eighty eight
August 16, 1998 (*AmE*) the sixteenth of August, nineteen eighty eight

Unit 2

2.1. Степени сравнения прилагательных и наречий (Degrees of Comparison)

В английском языке различают три степени сравнения прилагательных и наречий: положительную, сравнительную и превосходную. Прилагательные и наречия в положительной степени не имеют никаких окончаний: **old, difficult, tall, soon, often** и др. По способу образования сравнительной и превосходной степеней сравнения прилагательные и наречия делятся на две группы.

1. *Односложные* прилагательные и наречия, а также *некоторые двусложные* прилагательные, оканчивающиеся на **-y, -er, -ow, -ble**, образуют сравнительную степень при помощи суффикса **-er**, а превосходную – при помощи суффикса **-est**, которые прибавляются к форме положительной степени.

high <i>высокий</i>	higher <i>более высокий, выше</i>	highest <i>самый высокий, высочайший</i>
soon <i>скоро</i>	sooner <i>скорее</i>	soonest <i>скорее всего (всех)</i>

2. При образовании степеней сравнения следует соблюдать следующие правила орфографии:

а) Если прилагательное оканчивается на немое **-e**, то при образовании степеней сравнения оно опускается:

wide – wider – widest

б) Если прилагательное оканчивается на согласную, перед которой стоит краткая ударная гласная, конечная согласная удваивается:

hot – hotter – hottest

в) Если прилагательное оканчивается на **-y**, перед которой стоит согласная, **-y** переходит в **-i**:

busy – busier – busiest

но: grey – greyer – greyest

3. *Двухсложные и многосложные* прилагательные, а также наречия, оканчивающиеся на **-ly**, образуют степени сравнения при помощи слов:

more – для сравнительной степени,

most – для превосходной степени.

beautiful <i>красивый</i>	more beautiful <i>более красивый, красивее</i>	most beautiful <i>самый красивый, красивейший</i>
clearly <i>ясно</i>	more clearly <i>более ясно, яснее</i>	most clearly <i>яснее всего (всех)</i>

4. Некоторые прилагательные и наречия образуют степени сравнения от разных основ:

good <i>хороший</i> / well <i>хорошо</i>	better <i>лучше</i>	best <i>самый лучший, лучший</i>
bad <i>плохой</i> / badly <i>плохо</i>	worse <i>хуже</i>	worst <i>самый плохой, худший</i>
little <i>маленький, мало</i>	less <i>меньше</i>	least <i>самый маленький, наименьший</i>
many / much <i>много</i>	more <i>больше</i>	most <i>больше всего</i>

far дальний, далекий	farther / further более далекий, дальше	farthest / furthest самый дальний, далекий, дальше
	further дальнейший	furthest дальше всего (всех)

5. Существительное, определяемое прилагательным в превосходной степени, имеет определенный артикль.

<i>The largest city in the USA is New York.</i>	<i>Самый большой город в США – Нью-Йорк.</i>
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2.1.1. Сравнительные конструкции (Comparison Structures)

Прилагательные и наречия употребляются в следующих сравнительных конструкциях:

1. с союзом **as...as** *такой же...как, так же...как*; в данном случае используются прилагательные или наречия в положительной степени:

<i>I play tennis as often as you do.</i>	<i>Я играю в теннис так же часто, как ты.</i>
<i>This girl is as beautiful as my sister.</i>	<i>Эта девушка такая же красивая, как моя сестра.</i>

2. с **not so...as (not as...as)** *не такой...как, не так...как*; также прилагательные или наречия имеют положительную степень:

<i>Brazil is not so (as) big as Canada.</i>	<i>Бразилия не такая большая, как Канада.</i>
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3. с союзом **than** *чем*, используемого после прилагательных или наречий в сравнительной степени:

<i>I run faster than him (he does).</i>	<i>Я бегаю быстрее, чем он.</i>
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4. с конструкцией **the ... the**: **the** + *прилагательное (наречие) в сравнительной степени* ... + **the** + *другое прилагательное (наречие) в сравнительной степени* – *чем..., тем...*

<i>The warmer the weather, the better I feel.</i>	<i>Чем теплее погода, тем лучше я себя чувствую.</i>
<i>The more I thought about the plan, the less I liked it.</i>	<i>Чем больше я думал о плане, тем меньше он мне нравился.</i>

2.2. Времена группы Simple в действительном залоге (The Simple Tense Active Voice)

В английском языке имеются два залога: действительный (*the Active Voice*) и страдательный (*the Passive Voice*). Формы глагола действительного залога (*Simple, Continuous, Perfect, Perfect Continuous*) выражают действия, совершаемые лицом или предметом, которые являются подлежащим предложения.

2.2.1. Present Simple Tense

Present Simple Tense (настоящее простое время) образуется от инфинитива спрягаемого глагола без частицы *to* для всех лиц, кроме 3-го лица единственного числа, где к глаголу прибавляется окончание **-s** или **-es**. Окончание **-es** принимают глаголы, оканчивающиеся на шипящий или свистящий звуки (в написании на *sh, ch, ss, x*), а также к глаголам *go* и *do*.

У глаголов, оканчивающихся на букву **-y** с предшествующей согласной буквой, при образовании формы 3-го лица единственного числа буква **-y** меняется на букву **-i** и добавляется окончание **-es**. У глаголов, оканчивающихся на букву **-y** с предшествующей гласной, такого орфографического изменения не происходит.

dry – dries, fly – flies, study – studies

Ho: play – plays, say – says [sez], stay – stays

Окончания **-s/-es** произносятся следующим образом:

[z]	[s]	[ɪz]
после гласных и звонких согласных звуков	после глухих согласных звуков	после шипящих
see – sees [si:z] call – calls [kɔ:lz]	keep – keeps [ki:ps] take – takes [teiks]	pass – passes [pa:sɪz] teach – teaches [ti:tʃɪz]

Вопросительная форма образуется при помощи вспомогательного глагола **do** (для всех лиц, кроме 3-го лица единственного числа) или **does** (для 3-го лица единственного числа), за которыми следует инфинитив смыслового глагола без частицы *to*. В отрицательной форме вспомогательный глагол **do** (для всех лиц, кроме 3-го лица единственного числа) или **does** (для 3-го лица единственного числа) с отрицательной частицей **not** ставятся после подлежащего.

I translate.

Do I translate?

I do not (don't) translate.

He translates.

Does he translate?

He does not (doesn't) translate.

Present Simple выражает в настоящем времени:

1. Обычные и регулярно повторяющиеся действия. В этом случае в предложении могут встречаться такие наречия и выражения неопределенного времени и частотности, как **usually** обычно, **always** всегда, **sometimes** иногда, **often** часто, **never** никогда, **seldom** редко, **occasionally** время от времени, изредка, **every day (month, year etc.)** каждый день (месяц, год и т.д.) и др.

He often loses things.

Он часто теряет вещи.

Sometimes my car breaks down.

Моя машина иногда ломается.

2. Действия, дающие постоянную характеристику их деятелю.

I work in a bank. John works in a shop.

Я работаю в банке. Джон работает в магазине.

Nick and Kate wear glasses.

Ник и Кейт носят очки.

3. Факт, обозначающий всеобщую истину.

Water boils at 100° C.

Вода кипит при 100° C.

4. Ряд последовательных действий.

John gets up at 8 o'clock. He does his morning exercises, takes a shower,

Джон встает в 8 часов. Он делает утреннюю зарядку, принимает

cleans his teeth and brushes his hair. Then he dresses, has breakfast and goes to the university.

душ, чистит зубы и расчесывает-ся. Затем он одевается, завтракает и идет в университет.

2.2.2. Past Simple Tense

По способу образования Past Simple Tense (прошедшее простое время) все глаголы делятся на правильные (стандартные) и неправильные (нестандартные). Правильные глаголы образуют форму Past Simple путем прибавления во всех лицах единственного и множественного окончания **-ed** к инфинитиву глагола (без частицы *to*). Окончание произносится следующим образом:

[d]	[t]	[id]
после гласных и звонких согласных звуков	после глухих согласных звуков	после звуков [t] и [d]
play – played [pleid]	help – helped [helpt]	correct – corrected [kə'rektid]
open – opened ['əʊpnd]	ask – asked [a:skt]	mend – mended [mendid]

Если инфинитив глагола имеет один слог с кратким гласным звуком, который передается на письме одной буквой, при добавлении окончания **-ed** конечная согласная удваивается:

to stop – **stopped**; to plan – **planned**

Если инфинитив глагола оканчивается на букву **-y** с предшествующей согласной, **-y** меняется на **-i-** и прибавляется окончание **-ed**:

to study – **studied**; to dry – **dried**

Но: to play – **played**; to stay – **stayed**.

Неправильные глаголы образуют форму Past Simple различными способами и имеют также одну форму для всех лиц единственного и множественного числа:

to drive – drove	(изменение корневых согласных)
to send – sent	(оглушение конечной согласной)
to go – went	(образование нового корня)
to put – put	(неизменяемость формы)

Вопросительные и отрицательные формы Past Simple образуются для любого лица и числа при помощи вспомогательного глагола *do* в прошедшем времени – **did** и инфинитива смыслового глагола без частицы *to*.

I asked (*went*). Did I ask (*go*)? I did not (*didn't*) ask (*go*).
He asked (*went*). Did he ask (*go*)? He did not (*didn't*) ask (*go*).

Past Simple выражает в прошедшем времени:

1. Обычные и регулярно повторяющиеся действия. В этом случае употребляются те же наречия и выражения неопределенного времени и частотности, что и для Present Simple.

He usually went to work by car but Он обычно ездил на работу на машине, но иногда он ходил пешком.
He sometimes walked.

2. Факты и единичные действия со словами, обозначающие время, такими как: **yesterday** *вчера*, **the day before yesterday** *позавчера*, **five minutes ago** *пять минут назад*, **two years ago** *два года назад*, **long ago** *давно*, **last month**

(year etc) в прошлом месяце (году), **in 1996** в 1996 году, **the other day** на днях и др.

He *waited* an hour yesterday.

Вчера он *ждал* час.

She *wrote* a letter to her friend last week.

На прошлой неделе она *написала* письмо своему другу.

3. Ряд последовательных действий.

During my winter holiday I often *went* to the cinema and *saw* some interesting films. I *read* some books. I also *looked after* my little brother and *helped* my Mum about the house.

На зимних каникулах я часто *ходил* в кино и *посмотрел* интересные фильмы. Я *читал* книги. Я также *присматривал* за маленьким братом и *помогал* маме по дому.

2.2.3. Future Simple Tense

Future Simple Tense (будущее простое время) образуется при помощи вспомогательных глаголов **shall** (для 1-го лица единственного и множественного числа) и **will** (для остальных лиц единственного и множественного числа) и инфинитива смыслового глагола без частицы *to*. В современном английском языке имеется тенденция к употреблению **will** со всеми лицами.

В вопросительной форме вспомогательный глагол **will (shall)** ставится перед подлежащим. Отрицательная форма образуется при помощи отрицательной частицы **not**, которая ставится после вспомогательного глагола.

He *will* (he'*ll*) work.

Will he work?

He *will not* (won'*t*) work.

Future Simple выражает:

1. Обычные и регулярно повторяющиеся будущие действия. В этом случае употребляются те же наречия и выражения неопределенного времени и частотности, что и для Present Simple.

They *will* (They'*ll*) never *discuss* this problem.

Они никогда *не будут обсуждать* эту проблему.

I *will/shall* (I'*ll*) always *stay* at home on Saturdays.

Я всегда *буду оставаться* дома по субботам.

2. Факты и единичные действия со словами, обозначающими время, такими как: **tomorrow** *завтра*, **the day after tomorrow** *послезавтра*, **next month (year etc)** *в следующем месяце (году)*, **in May** *в мае*, **in a day (a year, etc)** *через день (год)* **in 2015** *в 2015 г.*

Nick *will graduate* from the University in June.

Ник *окончит* университет в июне.

He *will* (He'*ll*) *give* you back this book next Monday.

Он *вернет* вам эту книгу в следующий понедельник.

3. Ряд последовательных действий.

On Monday he *will finish* his work at 1 p.m., *go* home, *have* lunch and *call* on his friend.

В понедельник он *закончит* работу в час дня, *пойдет* домой, *пообедает* и *зайдет* к своему другу.

4. Говорящий высказывает свое мнение (предположение) о том, что действие или состояние будет иметь место в будущем.

I think there *will be* many people there.

Я думаю, там *будет* много людей.

I suppose they will be interested in my research.

Полагаю, что они заинтересуются моим исследованием.

5. Говорящий выражает решение, принятое в момент разговора.

Just a second! I will *write* it down.

Одну секунду! Я это *запишу*.

2.3. Типы вопросительных предложений

В английском языке существуют четыре типа вопросительных предложений: 1) общие вопросы (*General Questions*); 2) альтернативные вопросы (*Alternative Questions*); 3) специальные вопросы (*Special Questions*); 4) разделительные вопросы (*Tag Questions*).

General questions	<i>Do you work at a plant?</i>	Yes, I <i>do</i> .	No, I <i>don't</i> .
	<i>Does he work at a plant?</i>	Yes, he <i>does</i> .	No, he <i>doesn't</i> .
	<i>Did you work at a plant?</i>	Yes, I <i>did</i> .	No, I <i>didn't</i> .
	<i>Did you go to the plant?</i>	Yes, I <i>did</i> .	No, I <i>didn't</i> .
	<i>Will you work at a plant?</i>	Yes, I <i>will</i> .	No, I <i>won't</i> .
Alternative questions	<i>Do you work at a plant or at a factory?</i>	At a plant. / At a factory.	
	<i>Does he work at a plant or at a factory?</i>	At a plant. / At a factory.	
	<i>Did you work at a plant or at a factory?</i>	At a plant. / At a factory.	
	<i>Will you work at a plant or at a factory?</i>	At a plant. / At a factory.	
Special questions	<i>Where do you work?</i>	At the plant.	
	<i>What does he like to do in the evening?</i>	He likes reading.	
	<i>Who did you see yesterday?</i>	My brother.	
	<i>When did you go to the plant?</i>	In the morning.	
	<i>Why will he go to Moscow?</i>	Because he likes this city.	
	<i>What foreign languages does he speak?</i>	English and German.	
	<i>How many texts will you translate?</i>	Two texts.	
	<i>Who works at the plant?</i>	My sister (<i>does</i>).	
	<i>Who finished their work yesterday?</i>	Your Dad (<i>did</i>).	
	<i>Whose friend will return soon?</i>	My friend (<i>will</i>).	
Tag questions	<i>You work much, don't you?</i>	Yes, I <i>do</i> .	No, I <i>don't</i> .
	<i>You don't work much, do you?</i>	No, I <i>don't</i> .	Yes, I <i>do</i> .
	<i>You worked much, didn't you?</i>	Yes, I <i>did</i> .	No, I <i>didn't</i> .
	<i>You didn't work much, did you?</i>	No, I <i>didn't</i> .	Yes, I <i>did</i> .
	<i>You will work much, won't you?</i>	Yes, I <i>will</i> .	No, I <i>won't</i> .
	<i>You will not work much, will you?</i>	No, I <i>won't</i> .	Yes, I <i>will</i> .

2.3.1. Общие вопросы

Общие вопросы ставятся с целью получения от собеседника подтверждения (*yes*) или отрицания (*no*) мысли, высказанной говорящим. При построении общего вопроса на место перед подлежащим выносится первый вспомогательный глагол или модальный глагол:

Are you a good student?

Вы хороший студент?

Do you like apples?
Does he really speak English fluently?
Did you see him yesterday?
Will he do this job?

Вам нравятся яблоки?
Он действительно бегло говорит по-английски?
Вы его видели вчера?
Он сделает эту работу?

2.3.2. Альтернативные вопросы

Альтернативные вопросы ставятся с целью предложить собеседнику сделать выбор между двумя предметами, действиями, качествами и т.д. Структурно альтернативный вопрос представляет собой два общих вопроса, соединенных союзом **or** или.

Was it warm or cold yesterday?
Will you call for me or shall we meet at the University?
Can I talk to you?

Вчера было тепло или холодно?
Вы зайдете за мной или встретимся в университете?
Могу ли я поговорить с вами?

2.3.3. Специальные вопросы

Специальные вопросы ставятся с целью уточнения и получения дополнительной информации по поводу какой-нибудь частности. Специальные вопросы начинаются с вопросительного слова (или группы слов), заменяющего тот член предложения, к которому ставится вопрос: **what? что? what (+ сущ.)? какой? who(m)? кому?, кого? whose? чей?, which? какой? который?, when? когда?, where? где?, куда? how? как?, why? почему?, how many (much)? сколько?** и др. В них порядок слов такой же, как и в общих вопросах, но в отличие от последних перед вспомогательным или модальным глаголом стоит вопросительное слово (за исключением вопросов к подлежащему). Произносится с понижением голоса в конце предложения.

What did you do yesterday?
What story did you read yesterday?
When did you pass your last exam?
How do you feel?
How long will it take you to translate this article?

Что вы делали вчера?
Какой рассказ вы читали вчера?
Когда вы сдали последний экзамен?
Как вы себя чувствуете?
Сколько времени вам потребуется, чтобы перевести эту статью?

Вопросы к подлежащему начинаются с вопросительных местоимений **who? кто?** и **what? что?**, играющих в вопросе роль подлежащего, за которым следует сказуемое. В отличие от других вопросов, в таких вопросах сохраняется порядок слов повествовательного предложения. Глагол после **who** или **what** употребляется в форме 3-го лица единственного числа.

Who failed that exam?
Who knows French?
Who was late for the seminar?
Which of your friends learns Japanese?

Кто не сдал этот экзамен?
Кто знает французский?
Кто опоздал на семинар?
Кто из ваших друзей изучает японский язык?

2.3.4. Разделительные вопросы

Разделительные вопросы ставятся с целью получить подтверждение справедливости высказываемого в предложении. Структурно разделительные вопросы состоят из двух частей: повествовательного предложения и краткого вопроса, состоящего из местоимения, соотнесенного с подлежащим повествовательной части, и вспомогательного глагола, соотнесенного со сказуемым. Если повествовательная часть утвердительна по форме, то вопрос имеет отрицательную форму и наоборот.

She <i>is</i> at university today, <i>isn't she</i> ?	Она сегодня в университете, <i>да</i> ?
He <i>knows</i> English, <i>doesn't he</i> ?	Он знает английский, не так ли?
Nike <i>revised</i> the grammar rules, <i>didn't he</i> ?	Ник повторил грамматические правила, правда?
He <i>doesn't</i> live in Moscow, <i>does he</i> ?	Он не живет в Москве, правда?
They <i>couldn't</i> do a written translation of this article, <i>could they</i> ?	Они не смогли сделать письменный перевод этой статьи, не так ли?

2.4. Оборот *used to* + инфинитив

Оборот **used to** + основная форма глагола *раньше, прежде, когда-то, в прошлом* употребляется для обозначения действий, которые когда-то в прошлом совершались регулярно, часто, но в настоящем уже не совершаются.

I <i>used to</i> write home twice a week.	Я, <i>бывало, (раньше)</i> писал домой два раза в неделю.
He <i>used to</i> be a seaman.	<i>Когда-то</i> он был моряком.

2.5. Оборот *to be going to*

Оборот **to be going to** как один из способов выражения будущего времени используется для описания запланированного действия, для выражения намерения говорящего. Переводится *собираться (намереваться)* или просто *будущим временем*.

We <i>are going to</i> stay at a student dorm.	Мы <i>собираемся</i> остановиться в студенческом общежитии.
I <i>am going to</i> say a few words about our new work.	Я <i>скажу</i> несколько слов о нашей новой работе.

2.6. Употребление Present Simple в придаточных предложениях условия и времени для выражения будущего действия (Clauses of Condition and Time: *if (when)* + Present Simple)

В обстоятельственных придаточных предложениях условия и времени, которые вводятся союзами **if если, unless если...не, provided that при условии если (что); when когда, till (until) до тех пор пока... (не), as soon as как только,**

before до того как, **after** после того как, **as long as** пока, до тех пор пока и др., для выражения *будущего действия* употребляется *настоящее время* (Present Simple) вместо будущего. В русском языке в данных придаточных предложениях употребляется будущее время.

If he *has* time, he *will do* this work.

Если у него *будет* время, он выполнит эту работу.

He *will do* this work when he *isn't* so busy.

Он *выполнит* эту работу, когда *не будет* так занят.

Unit 3

3.1. Времена группы Simple в страдательном залоге (The Simple Tense Passive Voice)

Формы глагола страдательного залога (*the Passive Voice*) выражают действия, совершаемые над подлежащим (лицом или предметом). Страдательный залог образуется с помощью вспомогательного глагола **to be** в соответствующем времени, лице и числе и причастия прошедшего времени **Past Participle** (3-я ф. гл.).

Формула: *to be + Past Participle*
to be translated

Поскольку в страдательных конструкциях говорящего, как правило, интересует предмет или лицо, подвергающееся действию, а не производящее его, то в большинстве случаев деятель не указывается.

Действительный залог

Страдательный залог

He *translated* the article.

The article *was translated* (by him).

Он *перевел* статью.

Статья *была переведена* (им).

Времена группы Simple в страдательном залоге употребляются так же, как и времена этой группы в действительном залоге.

Действительный залог

Страдательный залог

Present Simple

They *hold* a meeting every week.

A meeting *is held* every week.

Они *проводят* собрание каждую неделю.

Каждую неделю *проводится* собрание.

Past Simple

The plant *produced* 5,000 cars last year.

5,000 cars *were produced* (by the plant) last year.

В прошлом году завод *изготовил* 5000 автомобилей.

В прошлом году (заводом) *было изготовлено* 5000 автомобилей.

Future Simple

The secretary *will mail* these letters tomorrow.

These letters *will be mailed* (by the secretary) tomorrow.

Секретарь *отправит* по почте письма завтра.

Эти письма *будут отправлены* по почте (секретарем) завтра.

Сказуемое в страдательном залоге переводится:

1. глаголом, оканчивающимся на **-ся**:

English and German *are studied* at the college. В колледже *изучаются* английский и немецкий языки.

2. глаголом *быть* и краткой формой причастия страдательного залога:

The article *was translated*. Статья *была переведена*.

3. глаголом действительного залога в 3-м л. мн. ч. в неопределенно-личном предложении:

He *was offered* an interesting book. Ему *предложили* интересную книгу.

We *were told* the news yesterday. Нам вчера *сообщили* новость.

В английском предложении за сказуемым в страдательном залоге может следовать предлог; слово, с которым этот предлог соотносится, является подлежащим. Поэтому при переводе на русский язык предлог ставится перед этим словом.

His article was much spoken *about (of)*. *О его статье* много говорили.

You will be spoken *to* later. *С вами* поговорят позже.

3.2. Безличные предложения (Impersonal Sentences)

В отличие от русского языка английские безличные предложения двусоставны: они имеют формальное подлежащее, выраженное местоимением **it**. В английском языке предложения такого рода используются для выражения:

1. явлений природы:

It is summer. Лето.

It is dark. Темно.

It is warm today. Сегодня тепло.

It often rains here. Здесь часто идет дождь.

It snowed heavily yesterday. Вчера шел сильный дождь.

2. времени, расстояния, температуры:

It was ten o'clock in the morning when I woke up. Было 10 часов утра, когда я проснулся.

It is two kilometers to the pond. До пруда два километра.

It takes me 20 minutes to get to university. У меня уходит (мне требуется) 20 минут, чтобы добраться до университета.

It is 15° above zero today. Сегодня 15° выше нуля.

3. оценки ситуации:

It is clear that she will not do this job. Ясно, что она не сделает эту работу.

It is necessary to come three days before the others. Необходимо приехать на три дня раньше других.

3.3. Усилительная конструкция *It is ... that*

Для выделения какого-либо члена предложения, чтобы подчеркнуть его значение употребляется сложноподчиненное предложение с конструкцией **It is ... that**, переводимое на русский язык простым предложением со словами

именно, как раз перед выделенным членом предложения. Придаточные предложения, в которых речь идет о людях, вводятся относительным местоимением **who (that)**, а придаточные, в которых говорится о неодушевленных предметах, вводятся относительным местоимением **which (that)**.

It is (was) + выделяемый член +

that (which, who) + подлежащ. + сказуемое

It is the data which (that) are reliable. Именно эти данные являются надежными.

It was our students who (that) took part in the conference. Именно наши студенты приняли участие в конференции.

3.4. Модальные глаголы (Modal Verbs)

Модальные глаголы (*can, may, must, should, ought to* и другие) выражают не действия, а только отношение к ним, т.е. возможность, вероятность или необходимость совершения действия. Само действие выражается инфинитивом смыслового глагола, следующего за модальным глаголом. Модальные глаголы имеют ряд особенностей:

1. употребляются в сочетании со смысловым глаголом в форме инфинитива без частицы *to*.

He must do it. Он должен это сделать.

2. не имеют неличных форм (инфинитива и причастия), образуют только простые временные формы Present и Past Simple.

I can speak English. Я могу говорить по-английски.

I could not read when I was five years old. Я не мог читать, когда мне было 5 лет.

3. не принимают окончания *-s/-es* в третьем лице единственного числа Present Simple.

He must go there at once. Он должен сразу же пойти туда.

4. образуют вопросительную и отрицательную формы без вспомогательного глагола *do*: вопросительную – постановкой модального глагола перед подлежащим, а отрицательную – при помощи частицы *not*, которая ставится после модального глагола, за исключением формы *to have to*:

May I ask you to explain the rule once more? Могу ли я попросить вас объяснить правило еще раз?

Does he have to help his colleague? Ему приходится помогать коллеге?

I cannot (can't) finish this work in time. Я не могу закончить вовремя эту работу.

She should not (shouldn't) put on weight. Ей не следует поправляться.

He didn't have to learn all the new words from the text. Ему не нужно было (= он не должен был) учить все новые слова из текста.

3.4.1. Модальный глагол *can*

Модальный глагол **can** *могу, умею, можно* имеет две временные формы: настоящее время **can** и прошедшее – **could**. Для образования будущего времени *can* заменяется выражением **to be able to** *быть в состоянии, могу, способен*. Модальный глагол *can* может выражать следующие значения:

1. способность, умение, умственная или физическая возможность:

My brother <i>can</i> speak English.	Мой брат <i>может</i> говорить по-английски.
She <i>could</i> hardly move.	Она едва <i>могла</i> двигаться.
He <i>will be able to</i> take part in the conference.	Он <i>сможет</i> принять участие в конференции.

Сочетание *to be able to* может употребляться в настоящем и прошедшем времени наряду с *can* и *could*. Но только форма *was/ were able to* употребляется в значении *смог, сумел (был в состоянии)*, когда речь идет о действии, фактически совершенном.

He <i>can (is able to)</i> conduct this test alone.	Он <i>может (в состоянии)</i> сделать этот опыт один.
I am glad you <i>were able to</i> get a good mark.	Я рад, что ты <i>смог</i> получить хорошую оценку.

2. возможность, создаваемая обстоятельствами:

It is the place where you <i>can</i> have a good time.	Здесь вы <i>можете</i> хорошо провести время.
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3. разрешение (запрещение в отрицат. предложениях):

<i>Can</i> I use your dictionary?	<i>Можно</i> мне воспользоваться твоим словарем?
You <i>can't</i> smoke in here.	Здесь <i>нельзя</i> курить.

3.4.2. Модальный глагол *may*

Модальный глагол **may** *могу, можешь, можно, возможно* имеет две временные формы: настоящее время **may** и прошедшее – **might**. Для выражения разрешения в прошедшем и будущем временах *may* заменяется выражением **to be allowed to** *получить разрешение, разрешать*. Модальный глагол *may* употребляется для выражения следующих значений:

1. просьба (в вопросительных предложениях), разрешение (в утвердительных предложениях):

<i>May</i> I have a look at your drawing?	<i>Можно</i> мне посмотреть ваш чертеж?
You <i>may</i> take this dictionary. I don't need it today.	<i>Можете</i> взять этот словарь. Сегодня он мне не нужен.
I <i>was allowed to</i> stay there.	Мне <i>разрешили (можно было)</i> остаться там.
She <i>will be allowed to</i> attend seminars.	Ей <i>разрешат (можно будет)</i> посещать семинары.

2. предположение, допускаемая возможность – *возможно, может быть*:

He <i>may call</i> you in the evening.	Он, <i>возможно (может быть)</i> , <i>позвонит</i> тебе вечером.
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Вместо глагола *may* может употребляться **might**, выражая еще большее сомнение в осуществлении данного действия.

You *might* remember their request. Вы, *может быть*, помните их просьбу. (*Я очень мало в это верю*).

3.4.3. Модальный глагол **must**

Модальный глагол **must** *должен, обязан, нужно, надо* имеет только одну форму, которая употребляется в настоящем времени и не изменяется в косвенной речи. Для образования прошедшего и будущего времен заменяется синонимичным выражением **to have to**. Модальный глагол в утвердительной форме имеет следующие значения:

1. обязанность, долг, необходимость (с точки зрения говорящего) – *должен, обязан*:

They *must* prepare their lessons Они *должны (обязаны)* подготовиться к занятиям сейчас.

2. настоятельный совет – *(обязательно) должен, (обязательно) нужно*:

All of you *must* attend this lecture. Вы все *(обязательно)* должны посетить эту лекцию.

3. предположение, основанное на уверенности – *должно быть, вероятно*:

My friend *must know* her address. Мой друг, *вероятно (должно быть)*, знает ее адрес.

В вопросительном предложении употребление глагола *must* ограничено значением *обязательно ли должен*, так как в вопросе *must* часто выражает нежелание выполнить данное действие, раздражение и т.п.

Must they discuss the question again? Они *обязательно должны* обсудить этот вопрос снова?

В отрицательной форме глагол *must* имеет значение категорического запрещения и переводится на русский язык *нельзя, запрещается, не должен*.

They *must not (mustn't)* put off the meeting. Им *нельзя* откладывать проведение этого собрания.

Модальный глагол *must* не имеет форм прошедшего и будущего времен. В этих временах употребляется синонимичный оборот **to have to**.

They *had to* translate that article yesterday. Они *должны были (им пришлось)* перевести эту статью вчера.

Did they *have to* translate that article? Они *должны были (им пришлось)* перевести эту статью?

They *will have to* translate this article. Они *должны будут (им придется)* перевести эту статью.

3.4.4. Глаголы **to have to** и **to be to** в модальном значении

Глагол **to have to** в качестве модального глагола обозначает долженствование как вынужденную необходимость совершения действия и переводится на русский язык *приходится, вынужден*.

It is late. He *has to* go now.

Поздно. Он *вынужден* (ему *приходится*) уйти.

Last night Nick suddenly became ill. We *had to* call the doctor.

Вчера вечером Ник неожиданно заболел. Нам *пришлось* (мы *были вынуждены*) позвонить врачу.

He *will have to* work late tomorrow.

Ему *придется* работать допоздна завтра.

Вопросительные и отрицательные формы глагола *to have to* в форме Present и Past Simple образуются с помощью вспомогательного глагола *do*.

Do you have to take an exam to get a driving licence?

Вы *вынуждены* (вам *нужно*) сдать экзамен, чтобы получить водительские права?

John *doesn't have to* work on Sundays.

Джону *не приходится* (не *нужно*) работать по воскресеньям.

Глагол **to be to** в качестве модального глагола обозначает долженствование как необходимость, заранее предусмотренную планом, графиком, расписанием, договоренностью, установленным порядком и так далее и употребляется в двух формах Present и Past Simple, в будущем времени не употребляется. Он может переводиться на русский язык словами *предстоит, должен*.

My friend *is to* be there at 5 o'clock.

Мой друг *должен* быть там в 5 часов.

We *were to* meet and discuss it on Thursday.

Мы *должны были* встретиться и обсудить это в четверг.

3.4.5. Модальный глагол *should*

Глагол **should** в качестве модального глагола имеет значение личного совета, личного мнения и переводится на русский язык – *следует, должен, нужно*. Он имеет только одну форму, которая употребляется в настоящем времени и не изменяется в косвенной речи.

He *should* pay more attention to chemistry.

Ему *следует* (надо) больше уделять внимания химии.

Глагол **should** в сочетании с перфектным инфинитивом выражает действие, которое не произошло, хотя оно было желательно, и переводится на русский язык – *следовало, следовало бы*.

She *should have done* that job in good time.

Ей *следовало* выполнить эту работу заблаговременно.

3.4.6. Модальный глагол *ought to*

Модальный глагол **ought to** *следует, должен* употребляется для выражения морального долга или совета. Он имеет только одну форму, которая употребляется в настоящем времени и не изменяется в косвенной речи.

The results of the experiment *ought to* be checked once more.

Следует поверить результаты эксперимента еще раз.

Глагол **ought to** в сочетании с перфектным инфинитивом выражает действие, которое, хотя оно было желательным в прошлом, не произошло, и переводится на русский язык – *следовало, следовало бы*.

The results of the experiment *ought to have been checked* once more. *Следовало (бы) проверить результаты эксперимента еще раз.*

Unit 4

4.1. Времена группы Continuous в действительном залоге (The Continuous Tense Active Voice)

Времена группы Continuous (длительное время) образуются при помощи вспомогательного глагола **to be** в соответствующем времени, лице и числе (**am/is/are** для Present, **was/were** для Past и **will be/shall be** для Future) и причастия настоящего времени Present Participle (форма на **-ing**) смыслового глагола.

Формула: *to be + Present Participle*
to be writing

При образовании вопросительных предложений соответствующая форма вспомогательного глагола (*to be* в Present и Past Continuous и *will/shall* в Future Continuous) ставится перед подлежащим. Отрицательная форма образуется при помощи *not*, которая ставится после вспомогательного глагола *to be* или *will/shall*.

He <i>is</i> (He's) <i>reading</i> .	Is he <i>reading</i> ?	He <i>is not</i> (isn't) <i>reading</i> .
He <i>was</i> <i>reading</i> .	Was he <i>reading</i> ?	He <i>was not</i> (wasn't) <i>reading</i> .
He <i>will</i> (He'll) <i>be reading</i> .	Will he <i>be reading</i> ?	He <i>will not</i> (won't) <i>be reading</i> .

Общим значением глаголов в форме Continuous является то, что они представляют действие как процесс и употребляются для выражения продолжающегося, незаконченного, длящегося действия, происходящего в какой-либо момент или отрезок времени в настоящем, прошедшем или будущем.

4.1.1. Present Continuous Tense

Форма Present Continuous выражает:

1. Длительные действия или процессы, совершающиеся в момент речи, со словами, которые обозначают это: **now** *сейчас, теперь*, **at this moment** *в настоящий момент*.

He <i>is reading</i> an article <u>now</u> .	Он <u>сейчас</u> <i>читает</i> статью.
You <i>are not</i> (aren't) <i>listening</i> to the radio <u>at present</u> .	<u>В настоящий момент</u> вы не <i>слушаете</i> радио.

Наличие слов **now** и **at present** не всегда обязательно, так как сама форма времени выражает, что действие происходит в момент речи. Это обычно ясно из контекста.

Look! George <i>is speaking</i> to his teacher.	Посмотри! Джордж <i>разговаривает</i> со своим преподавателем.
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2. Длительные действия, совершающиеся в настоящий период времени, хотя и не обязательно в момент речи.

He is learning English.

Он *изучает* английский язык.

3. Параллельные процессы в настоящем времени (часто с союзом **while** пока, в то время как). При этом в обеих частях предложения глагол употребляется в Present Continuous.

While I am reading, John is playing the piano.

Пока я читаю, Джон *играет* на пианино.

4. Запланированные действия, которые совершатся в (ближайшем) будущем. В этом случае в предложении имеется обстоятельство времени, указывающее на будущее время.

We are starting at 8 o'clock.

Мы *начинаем* в 8 часов.

4.1.2. Past Continuous Tense

Форма Past Continuous выражает:

1. Действие, происходившее в определенный момент в прошлом. Этот момент может быть выражен:

а) точным указанием времени в прошлом: **at that moment** в тот (этом) момент, **at 6 o'clock** в 6 часов, **at 3 o'clock yesterday** в 3 часа вчера, **from 4 till (to) 6 o'clock** с 4 до 5 часов и др.

They were discussing their plans at 5 p.m. yesterday.

Вчера в 5 часов они *обсуждали* свои планы.

My friend was translating the text from 5 till 6 o'clock.

Мой друг *переводил* текст с 5 до 6 часов.

б) другим действием, выраженным глаголом в Past Simple в придаточном предложении с союзом **when** когда.

They were playing chess when we came.

Они *играли* в шахматы, когда мы пришли.

2. Одновременные действия, протекавшие параллельно (часто с союзом **while**). В обеих частях предложения глагол употребляется в Past Continuous.

While the men *were discussing* the recent political events, the women *were talking* about the weather.

В то время как мужчины *обсуждали* последние политические события, женщины *говорили* о погоде.

3. Действия при описании такой обстановки, когда говорящий хочет воссоздать картину того, что происходило.

I met the Smiths at the airport. *They were waiting* for their flight. *Mary Smith was reading* a book. Her husband *was talking* to a man sitting next to him. Their son Mike *was having* an ice-cream.

В аэропорту я *встретил* семью Смитов. Они *ожидали* вылета своего рейса. Мэри Смит *читала* книгу. Ее муж *разговаривал* с сидящим рядом с ним мужчиной. Их сын Майк *ел* мороженое.

4.1.3. Future Continuous Tense

Форма Future Continuous выражает:

1. Действие, которое будет совершаться (будет находиться в процессе развития) в определенный момент в будущем. Этот момент может быть ясен из контекста или обозначен:

а) точным указанием времени в будущем: **at that moment** в этот момент, **at 6 o'clock** в 6 часов, **at 8 o'clock tomorrow** в 8 часов завтра, **from 2 till (to) 3 o'clock** с 2 до 3 часов и др.

He *will be working* in the lab at that moment tomorrow.

Завтра в этот момент он *будет работать* в лаборатории.

Will you *be waiting* for me from 5 till 6 tomorrow?

Вы *будете* меня *ждать* с 5 до 6 часов завтра?

б) другим действием в будущем, выраженным глаголом в Present Simple в придаточном времени с союзом **when** когда или условия с союзом **if** если.

What *will you be doing* when I phone you?

Что вы *будете делать*, когда я вам позвоню?

If you come at 5 o'clock, I *will still be working*.

Если вы придете в 5 часов, я все еще *буду работать*.

2. Одновременные действия, которые будут протекать параллельно (часто с союзом **while**), в обеих частях предложения глагол употребляется в Future Continuous.

While they *will be reviewing* grammar, we *will be doing* some exercises.

Пока они *будут повторять* грамматику, мы *будем делать* упражнения.

Следующие глаголы употребляются в форме Simple вместо формы Continuous:

а) глаголы, обозначающие физические восприятия: **to hear** слышать, **to see** видеть, **to notice** замечать и др.; эмоции: **to love** любить, **to like** нравиться, **to hate** ненавидеть и др.; желания: **to want** хотеть, **to wish** желать, **to need** нуждаться и др.; мнения, умозаключения и суждения: **to believe** верить, **to consider** считать, **to expect** полагать, **to know** знать, **to mean** иметь в виду, значить, **to remember** помнить, **to suppose** полагать, **to think** считать, **to understand** понимать и др.; глаголы, выражающие отношения: **to be** быть, **to belong** принадлежать, **to consist** состоять, **to contain** содержать, **to depend** зависеть, **to differ** различаться, **to include** включать и др.; некоторые отдельные глаголы: **to agree** соглашаться, **to allow** разрешать, **to prevent** предотвращать, **to seem** касаться и др.

Do you *hear* (now) what they are talking about?

Ты (теперь) *слышишь*, о чем они разговаривают?

She *likes* classical music now.

Сейчас ей *нравится* классическая музыка.

Don't put this book into the table. I still *need* it.

Не убирайте эту книгу в стол. Она мне еще *нужна*.

I *don't understand* what you mean.

Я *не понимаю*, что вы имеете в виду.

Air *consists* mainly of nitrogen and oxygen.

Воздух, главным образом, *состоит* из азота и кислорода.

4.2. Времена группы Continuous в страдательном залоге (The Continuous Tense Passive Voice)

Времена группы Continuous в страдательном залоге употребляются так же, как и времена этой группы в действительном залоге. В страдательном залоге вместо отсутствующей формы Future Continuous употребляется Future Simple.

Формула: *to be + being + Past Participle*

to be being translated

Действительный залог

Страдательный залог

Present Continuous

We *are discussing* these questions now.

Мы сейчас *обсуждаем* эти вопросы.

These questions *are being discussed* (by us) now.

Эти вопросы сейчас (нами) *обсуждаются*.

Past Continuous

They *were still building* that house when I came to Moscow.

Они все еще *строили* тот дом, когда я приехал в Москву.

That house *was still being built* (by them) when I came to Moscow.

Тот дом все еще *строился* (ими), когда я приехал в Москву.

Future Continuous

He *will be delivering* a lecture at 2 o'clock tomorrow.

Он *прочитает* лекцию завтра в 2 часа.

A lecture *will be delivered* (by him) at 2 o'clock tomorrow.

Лекция *будет прочитана* (им) завтра в 2 часа.

4.3. Слова-заместители существительных (Substitution Words of Nouns)

В английском языке существуют слова-заместители, которые употребляются, чтобы избежать повторения ранее упоминавшихся существительных.

4.3.1. Местоимение *one*

Заместителем существительного служит местоимение *one*:

one – заменяет существительное в единственном числе;

ones – заменяет существительное во множественном числе.

Переводятся существительным, которое они заменяют, или совсем не переводятся.

Take my *pen*. – Thank you, I have *one* (= a *pen*).

I don't have an *exercise book*. I must buy *one* (= an *exercise book*).

Возьмите мою *ручку*. – Благодарю вас, у меня есть (*ручка*).

У меня нет *тетради*. Я должен купить *тетрадь*.

Если местоимение *one* употребляется с прилагательным с артиклем (*an old one, the old one*) или ему предшествует местоимение (*this one, another one* и

др.), то оно может не переводиться на русский язык. При употреблении местоимения *one* с определенным артиклем (*the one, the ones*) оно переводится существительным, которое оно замещает, или словами *тот, та, то*.

My camera is very old. I must
buy a new one before my holiday.
The new camera is much better
than the old one.
The first text was easy, but the
one you are translating now is
very difficult.

Мой фотоаппарат очень старый. Я
должен купить новый перед отпуском.
Новый фотоаппарат гораздо лучше,
чем старый.
Первый текст был легким, а тот
(текст), который вы сейчас переводите,
очень трудный.

4.3.2. Указательные местоимения *that* и *those*

Местоимения *that* и *those* также употребляются во избежание повторения ранее упомянутого существительного:

that – заменяет существительное в единственном числе;

those – заменяет существительное во множественном числе.

Переводятся существительным, которое они заменяют.

The price of gold is higher than that of silver. Цена на золото выше цены серебра.

4.4. Местоимение *one* как формальное подлежащее

Местоимение *one* может употребляться в функции подлежащего в неопределенно-личных предложениях для обозначения неопределенного лица, которое мыслится обобщенно в значении *каждый, всякий человек, люди*. В данной функции оно обычно не переводится на русский язык.

One never knows what results he can produce. Никогда не знаешь, какие результаты он может получить.

Сочетания местоимения *one* с модальными глаголами *must, should, can, may* переводятся *надо, нужно, следует, можно*.

One must write... Нужно написать...

One should write... Следует написать...

One can (may) write... Можно написать...

Unit 5

5.1. Времена группы Perfect в действительном залоге (The Perfect Tense Active Voice)

Времена группы Perfect (совершенное время) образуются при помощи вспомогательного глагола **to have** в соответствующем времени, лице и числе (**have/has** для Present, **had** для Past и **will/shall have** для Future) и причастия прошедшего времени Past Participle (3-я форма глагола) смыслового глагола. Past Participle является неизменяемой частью глагольной формы. Правильные

глаголы образуют Past Participle путем прибавления окончания **-ed** к инфинитиву глагола (без частицы *to*). Неправильные глаголы образуют эту форму различными способами (*to speak – spoken, to write – wrote*).

Формула: *to have + Past Participle*

to have translated

to have written

При образовании вопросительных предложений соответствующая форма вспомогательного глагола (*to have* в Present и Past и *will/shall* в Future) ставится перед подлежащим. Отрицательная форма образуется при помощи частицы *not*, которая ставится после вспомогательного глагола *to have* или *will/shall*.

I have (I've) asked. Have I asked? I have not (haven't) asked.

He has (He's) asked. Has he asked? He has not (hasn't) asked.

He had (He'd) asked. Had he asked? He had not (hadn't) asked.

He will (He'll) have asked. Will he have asked? He will not (won't) have asked.

5.1.1. Present Perfect Tense

Форма Present Perfect выражает:

1. Действие, завершённое к данному моменту, результат которого налично, и имеющее непосредственную связь с настоящим моментом. Сказуемое, выраженное глаголом в Present Perfect, переводится на русский язык в прошедшем времени. Поскольку в данном случае важно не время совершения действия, а его результат в настоящем, Present Perfect употребляется:

а) без указания времени совершения действия:

She has made two mistakes in her test. Она сделала две ошибки в контрольной работе.

Has he written an article? Он написал статью?

б) с наречиями неопределённого времени – **already** уже, **ever** когда-либо, **never** никогда, **yet** еще, **just** только что и др.:

I have already seen his report. Я уже видел его отчет.

She hasn't passed her exam yet. Она еще не сдала экзамен.

в) со словами, обозначающими еще не истекшие периоды времени – **today** сегодня, **this week** на этой неделе, **this month** в этом месяце, **this year** в этом году, **recently** за последнее время:

Nick has done a lot of work this week. На этой неделе Ник сделал много работы.

Примечание:

Present Perfect не употребляется с обстоятельствами, указывающими на точное время в прошлом – **yesterday** вчера, **last week** на прошлой неделе, **on Monday** в понедельник, **10 days ago** 10 дней назад, **at 8 o'clock** в 8 часов и т.д., а также в вопросах, начинающихся с **when?** когда? или **what time?** в котором часу?. В этих случаях употребляется Past Simple.

I went to Paris last year. В прошлом году я ездил в Париж.

When did this programme end? Когда закончилась эта программа?

2. Действие, начавшееся в прошлом и продолжающееся до настоящего времени. Обычно такие действия выражаются с помощью Present Perfect

Continuous. В данном случае Present Perfect употребляется вместо Present Perfect Continuous с глаголами, не употребляющимися в форме Continuous (см. выше). При таком использовании глагол в форме Present Perfect переводится на русский язык, как правило, глаголом в настоящем времени. В предложении при этом имеются следующие обстоятельства времени: с предлогом **for** в течение – **for a long time** давно, долго, **for years** в течение многих лет, **for a week** в течение недели, **for ages** целую вечность и др.; с предлогом **since** с – **since morning** с утра, **since 5 o'clock** с 5 часов и др., а также с союзом **since** с, с тех пор как в придаточных предложениях времени, причем в этом случае Present Perfect употребляется в главном предложении, а в придаточном предложении, начинающемся с **since**, употребляется Past Simple. Present Perfect также употребляется в вопросительных предложениях, начинающихся с **how long?** как долго?.

I have known him since 1995.

Я знаю его с 1995 года.

Have you known Kate for a long
time?

Вы давно знаете Кейт?

How long have you known his brother?

Как долго вы знаете его брата?

Глаголы в форме Present Perfect в данном значении могут также переводиться на русский язык в прошедшем времени.

He *hasn't been* here since he graduated from college.

Он здесь *не был*, с тех пор как закончил колледж.

I *haven't seen* you for ages.

Я не видел тебя целую вечность.

Present Perfect употребляется также с некоторыми глаголами наряду с Present Perfect Continuous.

My parents *have lived* in Belgorod for 10 years.

Мои родители *живут* в Белгороде 10 лет.

(My parents *have been living* in Belgorod for 10 years.)

5.1.2. Past Perfect Tense

Форма Past Perfect выражает:

1. Действие, завершенное к определенному моменту в прошлом. Этот момент времени (год, число, час и т.д.) выражается с помощью предлога **by** к.

He *had consulted* the experts by that time.

Он *проконсультировался* у специалистов к тому времени.

2. Действие, завершенное до другого действия. То действие, которое произошло раньше, выражается формой Past Perfect, а то, которое позже – Past Simple. В данном случае употребляется, как правило, придаточное предложение времени, которое вводится союзами **before** до того, как; **перед тем, как**, **after** после того, как и **when** когда.

I *had read* the report when she came.

Я *прочитал* доклад, когда она пришла.

He *was rescued* after he *had been* in water for three hours.

Его *спасли* после того, как он пробыл в воде три часа.

5.1.3. Future Perfect Tense

Форма Future Perfect Tense выражает:

1. Действие, которое совершится и будет закончено к определенному моменту в будущем (предлог **by** к).

He <i>will have finished</i> this report <u>by</u> 10 o'clock.	Он <i>завершит</i> работу над докладом к 10 часам.
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2. Действие, которое завершится до другого действия. То действие, которое произойдет раньше, выражается формой Future Perfect, а то, которое позже – Present Simple (в придаточных предложениях времени, вводимых союзами **before** до того, как; *перед тем, как* и **after** после того, как).

Will you <i>have translated</i> all the sentences before the bell rings?	Вы <i>переведете</i> все предложения, <u>прежде чем</u> прозвонит звонок?
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5.2. Времена группы Perfect в страдательном залоге (The Perfect Tense Passive Voice)

Времена группы Perfect в страдательном залоге употребляются так же, как и времена этой группы в действительном залоге.

Формула: *to have + been + Past Participle*
to have been translated

Действительный залог

Страдательный залог

Present Perfect

We *have just read* the letter.

The letter *has been just read* (by us).

Мы только что *прочитали* письмо.

Письмо *было* только что *прочитано* (нами).

Past Perfect

They *had discussed* the plan when I came.

The plan *had been discussed* (by them) when I came.

Они *обсудили* план, когда я пришел.

План *был обсужден* (ими), когда я пришел.

Future Perfect

They *will have erected* this monument by the new year.

This monument *will have been erected* (by them) by the new year.

Они *соорудят* этот памятник к новому году.

Этот памятник *будет сооружен* (ими) к новому году.

5.3. Времена группы Perfect Continuous

Времена группы Perfect Continuous (совершенное длительное время) образуются при помощи формы Perfect вспомогательного глагола **to be** в соответствующем времени, лице, числе (**have been/has been** для Present, **had been** для Past и **will/shall have been** для Future) и причастия настоящего времени Present Participle (форма с окончанием *-ing*) смыслового глагола.

Формула: *to have been + Present Participle*
to have been translating

В вопросительной форме первый вспомогательный глагол ставится перед подлежащим (*have/has/had* или *will/shall*). Отрицательная форма образуется при помощи частицы *not*, которая ставится после вспомогательного глагола *to have* или *will/shall*.

<i>I have (I've) been doing.</i>	<i>Have I been doing?</i>	<i>I have not (haven't) been doing.</i>
<i>He had (He'd) been doing.</i>	<i>Had he been doing?</i>	<i>He had not (hadn't) been doing.</i>
<i>He will (He'll) have been doing.</i>	<i>Will he have been doing?</i>	<i>He will not (won't) have been doing.</i>

Общим значением времен группы Perfect Continuous является то, что они употребляются для выражения действия, которое началось до указанного момента и продолжается, продолжалось или будет продолжаться вплоть до этого момента.

5.3.1. Present Perfect Continuous

Форма Present Perfect Continuous выражает:

1. Действие, начавшееся в прошлом и продолжающееся до настоящего времени. В предложениях с Present Perfect Continuous, как правило, указывается период времени, в течение которого происходило действие. В данном случае сказуемое на русский язык переводится глаголом настоящего времени. Оно может быть обозначено следующим образом:

а) с помощью обстоятельственных выражений, таких как **all my life** *всю жизнь*, **these four years** *эти четыре года*, **all this week** *всю эту неделю*, **all this year** *весь этот год* и др.

<i>They have been working at this project all this year.</i>	Они <u>работают</u> над этим проектом <u>весь этот год</u> .
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б) с помощью предложных словосочетаний с предлогом **for**, таких как **for an hour** *в течение часа*, **for a week** *в течение недели*, **for a long time** *в течение долгого времени, долго* и др.

<i>He has been sitting here for 20 minutes.</i>	Он <u>сидит</u> здесь (<u>в течение</u>) 20 минут.
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в) с помощью предлога/союза **since** *с, с тех пор как*.

<i>I have been learning English since 2006.</i>	Я <u>изучаю</u> английский язык <u>с</u> 2006 года.
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г) в вопросах, начинающихся с **how long?** *как долго?*

<i>How long have you been waiting for me?</i>	<u>Как долго</u> вы меня <u>ждете</u> ?
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2. Действие, которое началось в прошлом и закончилось непосредственно перед моментом речи. В этом случае Present Perfect Continuous переводится на русский язык прошедшим временем глагола несовершенного вида.

<i>I am tired. I have been walking very fast.</i>	Я устал. Я <u>шел</u> очень быстро.
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С глаголами, которые не употребляются во временах группы Continuous (см. выше), вместо Present Perfect Continuous употребляется Present Perfect.

<i>How long have you known him? – I have known him since my childhood.</i>	<u>Как долго</u> ты его <u>знаешь</u> ? – Я его <u>знаю</u> с детства.
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5.3.2. Past Perfect Continuous Tense

Форма Past Perfect Continuous выражает действие, начавшееся ранее другого прошедшего действия, выраженного в Past Simple и еще происходившего в момент его совершения. В предложениях с Past Perfect Continuous обычно указывается период времени, в течение которого происходило действие. Он может быть обозначен такими обозначениями времени, как **all his life** *всю его жизнь*, **all that week** *всю эту (ту) неделю*, **for three hours** *в течение трех часов*, **for a long time** *в течение долгого времени, долго*, **since last year** *с прошлого года*, **since 6 o'clock** *с 6 часов* и др. Past Perfect Continuous переводится на русский язык прошедшим временем глагола несовершенного вида.

The telephone *had been ringing* for several minutes when he took the receiver. Телефон *звонил* уже несколько минут, когда он взял трубку.

5.3.3. Future Perfect Continuous Tense

Форма Future Perfect Continuous выражает действие, которое начнется раньше другого будущего действия или момента и будет еще совершаться в момент его наступления. Оно обычно бывает указано в предложении с помощью обстоятельственных слов (см. Present и Past Perfect Continuous). Эта форма употребляется очень редко.

They *will have been learning* Russian for 10 months by the 1st of May. 1-го мая *будет* 10 месяцев, как они *учат* русский язык.

В страдательном залоге вместо отсутствующих форм Present, Past и Future Perfect Continuous употребляются соответствующие формы Perfect.

Действительный залог *Страдательный залог*

Present Perfect Continuous

He *has been doing* this job for an hour. This job *has been done* (by him) for an hour.

Он *выполняет* эту работу в течение часа. Эта работа *выполняется* (им) в течение часа.

Past Perfect Continuous

I *had been copying* that text for 20 minutes when my brother came. That text *had been copied* (by me) for 20 minutes when my brother came.

Я *переписывал* этот текст в течение 20 минут, когда пришел мой брат. Этот текст *переписывался* (мною) в течение 20 минут, когда пришел мой брат.

Unit 6

6.1. Согласование времен (Sequence of Tenses)

В английском языке существует правило согласования времен, согласно которому временная форма сказуемого придаточного предложения, главным

образом, дополнительного придаточного предложения (иногда определительного или обстоятельственного), обуславливается временной формой сказуемого главного предложения.

Если сказуемое главного предложения выражено глаголом в одной из форм настоящего или будущего времени, то сказуемое дополнительного придаточного предложения может быть выражено любым временем.

She says that he <i>does</i> this work every day.	Она <i>говорит</i> , что он <i>выполняет</i> эту работу каждый день.
She says that he <i>did</i> that work yesterday.	Она <i>говорит</i> , что он <i>выполнил</i> эту работу вчера.
She says that he <i>will do</i> this work tomorrow.	Она <i>говорит</i> , что он <i>выполнит</i> эту работу завтра.
She says that he <i>is doing</i> this work now.	Она <i>говорит</i> , что он <i>выполняет</i> сейчас эту работу.
She says that he <i>has just done</i> this work.	Она <i>говорит</i> , что он только что <i>выполнил</i> эту работу.

Если сказуемое главного предложения выражено глаголом в одной из форм прошедшего времени, то сказуемое дополнительного придаточного предложения выражается одним из прошедших времен.

Для выражения действия, *одновременного* с действием главного предложения, в придаточном предложении употребляется формы *Past Simple* или *Past Continuous*, которые переводятся на русский язык настоящим временем.

He <i>said</i> he <i>went</i> to the library every day.	Он <i>сказал</i> , что он <i>ходит</i> в библиотеку каждый день.
John <i>said</i> that he <i>was waiting</i> for me.	Джон <i>сказал</i> , что он <i>ждет</i> меня.

Для выражения действия, *предшествующего* действию главного предложения, в придаточном предложении употребляется форма *Past Perfect*, которая переводится на русский язык прошедшим временем.

Tom <i>said</i> that Ann <i>had bought</i> a new car.	Том <i>сказал</i> , что Энн <i>купила</i> новую машину.
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Для выражения действия, *будущего* по отношению к действию главного предложения, в придаточном предложении употребляется время *Future-in-the-Past* (*будущее в прошедшем*), которое образуется с помощью вспомогательного глагола *should* (для первого лица единственного и множественного числа) или *would* (для остальных лиц) и инфинитива смыслового глагола без частицы *to*. В современном английском языке имеется тенденция к употреблению *would* со всеми лицами.

John <i>said</i> that he <i>would talk</i> to her.	Джон <i>сказал</i> , что он <i>поговорит</i> с ней.
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При согласовании времен меняются по смыслу местоимения и показатели времени и места: *this* → *that*, *these* → *those*, *here* → *there*, *now* → *then*, *today* → *that day*, *last week* → *the week before*, *yesterday* → *the day before*, *two days ago* → *two days before*, *tomorrow* → *the next day (the following day)* и др.

Материал, изложенный выше, можно представить в виде следующей таблицы:

1) Действие в придаточном предложении относится к <i>настоящему</i> .	He <i>said</i> that he <i>worked</i> (was working) at a factory.	Он <i>сказал</i> , что <i>работает</i> на фабрике.
2) Действие в придаточном предложении относится к <i>прошлому</i> .	He <i>said</i> that he <i>had worked</i> at a factory.	Он <i>сказал</i> , что он <i>работал</i> на фабрике.
3) Действие в придаточном предложении относится к <i>будущему</i> .	He <i>said</i> that he <i>would work</i> * at a factory. * <i>Future-in-the Past</i>	Он <i>сказал</i> , что он <i>будет работать</i> на фабрике.

Правила согласования времен иногда нарушаются. Это может происходить в следующих случаях:

1. когда сообщается *общеизвестная истина*.

The teacher *said* that water *boils* at 100 °C. Учитель *сказал*, что вода *кипит* при 100 °C.

I *made* my friend understand how important education *is*. Я *заставил* своего друга понять, как важно образование.

2. с модальными глаголами *must*, *should* и *ought to*.

Jack *said* that she *should* go to the library. Джек *сказал*, что ей *следует* пойти в библиотеку.

She *said* that he *must* speak to the teacher. Она *сказала*, что он *должен* поговорить с учителем.

Если нужно передать значение необходимости, употребляется форма *to have to* в прошедшем времени вместо *must*.

Paul *said* that she *had to* buy that book. Пол *сказал*, что ей *необходимо* купить эту книгу.

Модальный глагол *can*, у которого есть форма прошедшего времени *could*, подчиняется правилам согласования времен.

Ted *said* that he *could* help her. Тед *сказал*, что он *может* помочь ей.

6.2. Прямая и косвенная речь (Direct and Indirect Speech)

Прямая речь – это речь какого-либо лица, передаваемая без каких-либо изменений. В отличие от русского языка, она отделяется от вводящих слов запятой, и кавычки ставятся в начале и в конце предложения над строчкой.

He said to me, "I will write a report tomorrow." Он *сказал* мне: «Я напишу доклад завтра».

Косвенная речь – это речь, передаваемая не слово в слово, а в измененной форме, в виде придаточного предложения, которое вводится союзом или бессоюзно, не отделяется запятой от главного предложения и не выделяется кавычками.

He told me (that) he would write a report the next day. Он *сказал* мне, что напишет доклад завтра.

Для передачи *повествовательного предложения* в косвенной речи производятся следующие изменения:

1. Если сказуемое в главном предложении стоит в одной из форм прошедших времен, то время сказуемого прямой речи заменяется в косвенной речи (в придаточном предложении) другим временем в соответствии с правилом согласования времен.

2. Как и в русском языке, личные и притяжательные местоимения заменяются по смыслу.

3. Если в словах, вводящих прямую речь, глагол *to say* использован без дополнения, то он сохраняется. Если же после глагола *to say* имеется дополнение, то он заменяется глаголом *to tell*.

4. Заменяются указательные местоимения и показатели времени и места: *this* → *that*, *these* → *those*, *here* → *there*, *now* → *then*, *today* → *that day* и т.д. (см. выше).

Bob said, "I know this rule."

Bob said that he knew that rule.

Bob said to us, "I know this rule."

Bob told us that he knew that rule.

Для передачи *вопросительного предложения* в косвенной речи следует соблюдать следующие правила:

1. Вопросительное предложение становится дополнительным придаточным предложением с *прямым порядком слов* (за подлежащим следует сказуемое).

2. *Общий вопрос* вводится союзами *if* или *whether*, которые переводятся на русский язык частицей *ли*.

3. *Специальный вопрос* вводится вопросительным словом, приобретающим функцию союзного слова.

4. Остальные изменения те же, что и при обращении повествовательных предложений в косвенную речь.

Alan asked me, "Do you go to university?"

Alan asked me if (whether) I went to university.

She asked, "What did you discuss at the seminar?"

She asked me what we had discussed at the seminar.

При передаче *повелительного предложения* в косвенной речи производятся следующие изменения:

1. Глагол *to say* заменяется по смыслу глаголами *to ask* (если прямая речь выражает просьбу), *to tell* или *to order* (если прямая речь выражает приказание).

2. Глагол в повелительном наклонении заменяется в косвенной речи инфинитивом (отрицательная форма инфинитива образуется с помощью частицы *not*).

3. Остальные изменения те же, что и при обращении повествовательных предложений в косвенную речь.

He said to me, "Switch the computer on, please."

He asked me to switch the computer on.

She said to me, "Don't waste money."

She told me not to waste money.

Unit 7

7.1. Причастие настоящего времени (Present Participle)

Причастие настоящего времени образуется путем прибавления суффикса **-ing**. Оно имеет временные и залоговые различия:

	<i>Active</i>	<i>Passive</i>
<i>Present Participle Simple</i>	doing	being done
<i>Present Participle Perfect</i>	having done	having been done

Формы Simple (Active и Passive) выражают действия, одновременные с действием сказуемого. Формы Perfect (Active и Passive) выражают действия, предшествующие действию сказуемого. Причастие настоящего времени используется как:

1. *определение*; переводится причастиями на *-щий, -вший* (формы Active), *-мый, -щийся, -вишийся* или придаточным предложением (формы Passive).

The playing boy is my friend's son. *Играющий* мальчик – сын моего друга.

The boy playing in the garden is my friend's son. Мальчик, *играющий* в саду, – сын моего друга.

The bridge being built across the river will be very big. Мост, *строящийся (который строится)* через реку, будет очень большим.

2. *обстоятельство*; переводится деепричастием с суффиксами *-а, -я* (формы Simple Active), *-ав, -ув* (формы Perfect Active), обстоятельством обобщением или придаточным обстоятельным предложением.

(While) reading he was making some notes. *Читая*, он делал заметки.

Having lost the key he couldn't get into the house. *Потеряв* ключ, он не мог попасть в дом.

Being built of wood the bridge couldn't carry heavy loads. Так как мост *был построен (будучи построенным)* из дерева, он не мог выдержать тяжелых нагрузок.

Having been translated into many languages Tolstoy's books became known all over the world. *После того как* книги Толстого *были переведены* на многие языки, они стали известны во всем мире.

3. *часть составного сказуемого*; переводится глаголом в личной форме.
He is writing an article. Он *пишет* статью.

7.2. Причастие прошедшего времени (Past Participle)

Причастие прошедшего времени правильных глаголов образуется прибавлением окончания **-ed** к основе глагола (close → closed). Причастие прошедшего времени неправильных глаголов образуется различными другими способами (3-я форма глагола: write → written). Оно используется в предложении как:

1. *определение*; переводится причастиями на *-нный, -тый, -мый, -щийся, -вишийся*.

He showed us some journals received by their library. Он показал нам журналы, *полученные* их библиотекой.

There are a few *broken* chairs in the room. В комнате несколько *сломанных* стульев.

Если причастие без пояснительных слов стоит после определяемого существительного, то при переводе на русский язык такое одиночное причастие следует ставить перед определяемым существительным.

The results *obtained* were used in his report. *Полученные* результаты были использованы в его докладе.

The letter *sent* was signed by the director. *Отправленное* письмо было подписано директором.

2. *обстоятельство*; переводится придаточным обстоятельственным предложением (времени, условия, причины и др.).

When *questioned*, I didn't know what to answer. Когда меня стали *расспрашивать*, я не знал, что ответить.

If *given* a dictionary, he will translate this text. Если ему *дадут* словарь, он переведет этот текст.

3. *часть составного сказуемого*; переводится глаголом в личной форме.

We have *done* this job. Мы *выполнили* эту работу.

The job was *done*. Работа была *выполнена*.

7.3. Независимый причастный оборот (Absolute Participle Construction)

Независимый причастный оборот состоит из существительного в общем падеже или личного местоимения в именительном падеже (которому может предшествовать предлог *with*) и причастия. Этот оборот обычно отделяется запятой независимо от места в предложении. Переводится придаточными обстоятельственными предложениями, начинающимися со слов *так как, если, когда* и других, если стоит в начале предложения; в конце – самостоятельными предложениями обычно с союзами *причем, а* и др.

The weather being fine, we started for a walk. Так как *погода была хорошая*, то мы отправились на прогулку.

My sister having come back, I went to see her. После того как моя сестра *вернулась*, я пошел навестить ее.

The research done, they published its results. После того как *исследование было выполнено*, они опубликовали его результаты.

We completed our experiments, *with the data being published*. Мы закончили наш эксперимент, *причем все данные были опубликованы*.

7.4. Составные предлоги и союзы

1. according to <i>согласно чему-л.</i>	<i>According to</i> the timetable, the train leaves at 8.15 a.m.
2. apart from <i>не считая, кроме, не говоря уже о</i>	Father was the only one who knew you thoroughly, <i>apart from me</i> .

3. as to относительно, что касается	Mr. Pike inquired <i>as to</i> the exchange price.
4. as well as так же как, а также	This article is interesting <i>as well as</i> useful.
5. because of благодаря, из-за, вследствие	I couldn't get to work <i>because of</i> my illness.
6. by means of посредством, с помощью	Thoughts are expressed <i>by means of</i> words.
7. due to благодаря, из-за, вследствие	Our success was <i>due to</i> luck.
8. in addition to в дополнение к, кроме	<i>In addition to</i> giving a general introduction to computers, the course also provides practical experience.
9. in front of перед, впереди, напротив	I will wait for you <i>in front of</i> the shop.
10. in order to чтобы, для того чтобы	He stood on the chair <i>in order to</i> reach the top shelf.
11. in spite of несмотря на	<i>In spite of</i> the threat of war, he says he remains confident that peace is possible.
12. instead of вместо	He accepted the realities <i>instead of</i> resisting them.
13. in view of ввиду, принимая во внимание	<i>In view of</i> his youth, the police have decided not to press charges.
14. on account of из-за, по причине, вследствие	He couldn't read the speech himself, <i>on account of</i> a sore throat.
15. owing to из-за, благодаря, вследствие	Flights were delayed <i>owing to</i> the strike.
16. with (in) regard to что касается, относительно	<i>With regard to</i> your recent application, I am afraid we are unable to offer you the job.
17. thanks to благодаря, из-за, вследствие	<i>Thanks to</i> the new network, clerks will be able to deal with all the payments at one time.

Unit 8

8.1. Герундий (Gerund)

Герундий является неличной формой глагола, обладающей свойствами как существительного, так и глагола, и образуется из основы глагола + суффикс *-ing*. Характерными признаками герундия являются стоящие перед ним предлог, притяжательное местоимение или существительное в притяжательном или общем падеже. Переводится на русский язык отглагольным существительным, инфинитивом, дееспричастием или глаголом в личной форме в составе придаточного предложения. Формы герундия совпадают с формами причастия настоящего времени: формы Simple (Active и Passive) выражают действия, одновременные с действием сказуемого, Perfect (Active и Passive) – действия, предшествующие действию сказуемого.

	<i>Active</i>	<i>Passive</i>
<i>Simple</i>	doing	being done
<i>Perfect</i>	having done	having been done

8.2. Употребление герундия

1. Некоторые наиболее часто употребляемые глаголы, за которыми следует герундий без предлога:

to avoid	to go on
to delay	to keep (on)
to deny	to mention
to dislike	to mind
to enjoy	to practise
to excuse	to put off
to finish	to be worth
to give up	can't help

2. Некоторые глаголы, после которых могут употребляться как герундий, так и инфинитив в одинаковом значении:

to begin	to like
to continue	to prefer
to intend	to start

3. Некоторые глаголы, причастия и прилагательные, требующие определенного предлога, после которого употребляется герундий:

to dream of	to look forward to
to hear of	to assist in
to inform of	to result in
to know of	to be interested in
to speak of	to depend on
to think of	to insist on
to be afraid of	to rely on
to be proud of	to be astonished at
to get used to	to be surprised at

8.3. Функции герундия

Герундий используется в предложении как:

1. *подлежащее*; переводится либо существительным, либо инфинитивом.

Smoking is not allowed here. *Курить* (курение) здесь не разрешается.

2. *именная часть составного сказуемого*; переводится либо инфинитивом, либо существительным.

His greatest pleasure is *reading* books. Самое большое удовольствие для него – это *чтение* (читать) книг(и).

3. *дополнение*; переводится существительным, инфинитивом или придаточным предложением.

a) *прямое дополнение*

He likes *reading* books.

Ему нравится *читать* (чтение) книги.

Tom likes <i>being read</i> such books.	Том любит, <i>когда ему читают</i> такие книги.
I remember <i>having read</i> this book.	Я помню, <i>что я читал</i> эту книгу.
I remember <i>having been told</i> about this book	Я помню, <i>что мне рассказывали</i> об этой книге.
б) <i>косвенное дополнение</i>	
I am pleased <i>with his learning</i> English.	Я доволен <i>тем, что он изучает</i> английский язык.
He was surprised <i>at having been asked</i> about it.	Он был удивлен, <i>что его спросили</i> об этом.
4. <i>определение</i> ; переводится существительным, прилагательным или инфинитивом.	
I like your idea of <i>writing</i> another article.	Мне нравится ваша идея <i>написать</i> еще одну статью.
5. <i>обстоятельство</i> ; переводится деепричастием, инфинитивом или существительным.	
We enrich our knowledge by <i>reading</i> books.	Мы обогащаем свои знания, <i>читая</i> (чтением) книги.
He entered the room <i>without being noticed</i> .	Он вошел в комнату <i>незамеченным</i> .

8.4. Герундиальный оборот

Герундиальный оборот (существительное в общем или притяжательном падеже или притяжательное местоимение и любая форма герундия) выражает действие, которое совершает лицо (предмет), стоящее перед герундием. Переводится придаточными предложениями, вводимыми местоимением *to* в соответствующем падеже и союзом *что* или *чтобы*.

He insisted on <i>his (the postgraduate student's) writing</i> an article.	Он настаивал на <i>том, чтобы он (аспирант) написал</i> статью.
<i>His (my colleague's) taking</i> part in this research work helped me greatly.	<i>То, что он (мой коллега) принял участие</i> в этой исследовательской работе, очень помогло мне.
She objected to <i>the article being published</i> in this journal.	Она возражала против <i>того, чтобы статья была опубликована</i> в этом журнале.

Unit 9

9. Инфинитив (The Infinitive)

Инфинитив – неличная форма глагола, сочетающая в себе свойства глагола и существительного. Признаком инфинитива является частица *to*. Имеет следующие формы:

	<i>Active</i>	<i>Passive</i>
<i>Simple</i>	to do	to be done
<i>Continuous</i>	to be doing	—
<i>Perfect</i>	to have done	to have been done
<i>Perfect Continuous</i>	to have been doing	—

Формы инфинитива Simple и Continuous выражают действие, одновременное с действием сказуемого; Perfect и Perfect Continuous показывают, что действие предшествует действию сказуемого. Формы Continuous и Perfect Continuous также показывают, что действие длительное. В предложении инфинитив употребляется в функциях:

1. *подлежащего*; переводится инфинитивом или существительным.

To read books in bad light is harmful. Чтение (чтение) книги при плохом освещении вредно.

2. *именной части составного сказуемого*; переводится инфинитивом или существительным; глагол-связка *to be* в сочетании с инфинитивом может переводиться словами *заключаться в том, чтобы* или *состоять в том, чтобы*.

My aim is to master English. Моя цель — овладеть (овладение) английским языком.

The problem was to get there in time. Задача состояла в том, чтобы добраться туда вовремя.

3. *дополнения*; переводится инфинитивом.

He hopes to find a good job. Он надеется найти хорошую работу.

4. *определения*; переводится инфинитивом, существительным или придаточным определительным предложением; инфинитив в страдательном залоге (Infinitive Passive) переводится придаточным определительным предложением со словами *будет, нужно, должен*; может также переводиться личной формой глагола после слов *the first, the second, the last* и т.д.

The road to connect these two towns is being built. Дорога, которая должна соединить эти два города, строится.

Here is the text to be translated. Вот текст, который нужно перевести.

He was the first to come to the conference. Он первым пришел на конференцию.

5. *обстоятельства*; переводится инфинитивом с союзами *чтобы, для того чтобы* или без союзов, деепричастием.

We must work hard to master English. Мы должны много работать, чтобы овладеть английским языком.

He went to England to study English. Он поехал в Англию изучать английский язык.

Unit 10

10.1. Сложное дополнение (Complex Object)

Конструкция *сложное дополнение* или *объектный падеж с инфинитивом*, состоящая из существительного в общем падеже или личного местоимения в объектном падеже и инфинитива, переводится на русский язык дополнительным придаточным предложением, вводимым словами *что, чтобы, когда, как*. Этот оборот в зависимости от глаголов, после которых он употребляется, может подразделяться на четыре типа:

1. с глаголами, обозначающими желание или потребность: **to want хотеть, to like нравиться, to hate ненавидеть, would like хотелось бы** и др.

He wants *me to go* home.

Он хочет, *чтобы я пошел* домой.

We would like *him to be invited* to the meeting.

Нам бы хотелось, *чтобы его пригласили* на собрание.

2. с глаголами, обозначающими процесс умственной деятельности: **to expect ожидать, надеяться to believe, to suppose полагать, to know знать, to find, to consider считать** и др.

She considers *this problem to be very interesting*.

Она считает, *что эта задача очень интересная*.

I expect *him to write* to me.

Я надеюсь, *что он напишет* мне.

I didn't know *them to have published* an article.

Я не знал, *что они опубликовали* статью.

3. с глаголами физического восприятия и ощущения: **to see видеть, to hear слышать, to feel чувствовать, to watch наблюдать** и др. Инфинитив в этой конструкции употребляется без частицы *to*. После глаголов этой группы также употребляется оборот *объектный падеж с причастием настоящего времени*.

I saw *them go* to the park.

Я видел, *как они пошли* в парк.

I saw *them going* to the park.

Я видел, *как они шли* в парк.

4. с глаголами, выражающими приказание, разрешение, просьбу: **order приказывать, to allow, to permit разрешать, to cause, to make заставлять, to let позволять** и др. После глаголов **to make** и **to let** инфинитив употребляется без частицы *to*. Сложное дополнение после глаголов этой группы переводится на русский язык местоимением или существительным в винительном или дательном падеже с инфинитивом.

He ordered *this job to be done*.

Он приказал *выполнить эту работу*.

I made *him rewrite* the exercise.

Я заставил *его переписать* это упражнение.

10.2. Сложное подлежащее (Complex Subject)

Конструкция *сложное подлежащее* или *именительный падеж с инфинитивом* состоит из существительного в общем падеже или местоимения в именительном падеже и инфинитива, следующего за сказуемым, и переводится на русский язык дополнительным придаточным предложением, присоединяемым словами *что, чтобы, когда, как*. Предложения с этой конструкцией также могут переводиться простым предложением, в котором имеется вводное предложение (*как*) *говорят, (как)* *ожидают, (как)* *сообщается* и т.д. Конструкция *сложное подлежащее* употребляется:

1. со сказуемым в страдательном залоге, выраженным глаголами: **to see** видеть, **to hear** слышать, **to expect** полагать, ожидать, **to assume** предполагать, допускать, **to consider** считать, **to know** знать, **to say** сказать, говорить, **to report** сообщать, **to announce** объявлять и др.

<i>This man is said to know everybody here.</i>	Говорят, что этот человек знает здесь всех.
<i>He is known to be a good student.</i>	Известно, что он хороший студент.
<i>This article is expected to have been published recently.</i>	Полагают, что эта статья была недавно опубликована.

2. со сказуемым в действительном залоге, выраженным глаголами: **to seem**, **to appear** по-видимому, казаться, **to prove**, **to turn out**, **to happen** оказываться и др.

<i>The information proved to be wrong.</i>	Оказалось, что информация неверна.
<i>The child seemed to be sleeping.</i>	Казалось, что ребенок спит.

3. с именным составным сказуемым типа: **to be likely** вероятно, **to be unlikely** маловероятно, **вряд ли**, **to be sure**, **to be certain** несомненно, наверное, обязательно и др.

<i>They are likely to come back on Tuesday.</i>	Вероятно, они вернутся во вторник.
<i>He is sure to do this job.</i>	Он, несомненно, сделает эту работу.

10.3. Конструкция *for* + существительное + инфинитив (For-to-Infinitive Construction)

Эта конструкция состоит из предлога *for*, существительного в общем падеже или личного местоимения в объектном падеже и инфинитива. Переводится обстоятельственным придаточным предложением, вводимым союзом *чтобы*, простым предложением или инфинитивом.

<i>He spoke loudly for them (the people) to hear him.</i>	Он говорил громко, чтобы они (люди) его слышали.
<i>It is necessary for us to do this work.</i>	Нам необходимо сделать эту работу вовремя.
<i>It is necessary for society to allocate resources economically.</i>	Необходимо, чтобы общество экономно размещало ресурсы.

Unit 11

11.1. Условные предложения (Conditional Sentences)

Условные предложения английского языка можно подразделить на два типа: 1) *выражающие реальное условие* и 2) *выражающие нереальное условие*.

1. В условных предложениях, *выражающих реальное условие*, употребляется форма изъявительного наклонения глагола, которая показывает, что действие происходило, происходит или будет происходить в действительности.

If he *has* time, he *does* this work.

Если у него *есть* время, он *выполняет* эту работу.

If he *had* time, he *did* that work.

Если у него *было* время, он *выполнял* эту работу.

В придаточных предложениях условия и времени для выражения *будущего действия* употребляется *настоящее время* вместо будущего.

If he *has* time, he *will do* this work.

Если у него *будет* время, он *выполнит* эту работу.

He *will do* this work when he *isn't* so busy.

Он *выполнит* эту работу, когда *не будет* так занят.

2. В условных предложениях, выражающих *нереальное условие*, употребляется форма сослагательного наклонения глагола. Для выражения действий в настоящем и будущем в главном предложении употребляется вспомогательный глагол *would*, а в придаточном предложении (после союза *if*) – форма, совпадающая с *Past Simple*. Глагол *be* в условном придаточном предложении имеет форму *were* для всех лиц.

If he *had* time, he *would do* this work.

Если *бы* у него *было* время, он *бы* выполнил эту работу.

She *would begin* her work at once if it *depended* on her alone.

Она *бы* *начала* работу немедленно, если *бы* это *зависело* только от нее.

If he *were* free, he *would do* this work.

Если *бы* он *был* свободен, он *бы* выполнил эту работу.

Для выражения действий, совершившихся в прошлом, в главном предложении употребляется вспомогательный глагол *would* с *перфектным инфинитивом* (*would have done*), а в придаточном предложении – *сказуемое в Past Perfect* (*had done*).

If he *had had* time yesterday, he *would have done* the job.

Если *бы* у него *было* время вчера, он *бы* *сделал* эту работу.

If you *had stayed* at home yesterday, you *wouldn't have missed* that interesting programme.

Если *бы* вы *остались* вчера дома, вы *бы не пропустили* эту интересную программу.

Иногда встречается *смешанный тип* условных предложений, выражающих *нереальное условие*: условное придаточное предложение относится к прошлому, а главное предложение – к будущему и наоборот.

If I *were* you, I *would have taken* part in the conference last week.

На твоём месте я *бы принял участие* в конференции на прошлой неделе.

If he *had helped* us yesterday, we *would finish* this work tomorrow.

Если *бы* он нам *помог* вчера, мы *бы закончили* эту работу завтра.

11.2. Инверсия в условных предложениях

В нереальных условных предложениях может использоваться *инверсия* (обратный порядок слов), если в состав сказуемого входят глаголы *were*, *had*, *could*. В этом случае союз *if* опускается, а упомянутые выше глаголы ставятся перед подлежащим.

Had he stayed at home yesterday, he *wouldn't have missed* that interesting programme.

Were he free, he *would do* this work.

Останься он вчера дома, вы *бы не пропустили* эту интересную программу.

Будь он свободен, он *бы выполнил* эту работу.

11.3. Определительные придаточные предложения (Relative Clauses)

Определительные придаточные предложения выполняют функцию определения и отвечают на вопросы **what? which? какой?** и соединяются с главным предложением следующими союзными словами: местоимениями **who(m)** *который (-ого)*, **which (that)** *который*, **whose** *чей*, а также наречиями **when** *когда*, **where** *где (куда)*, **why** *почему*. Определительные придаточные, в которых речь идет о *людях*, вводятся местоимением **who (that)**, а определительные придаточные, в которых говорится о неодушевленных предметах или животных, вводятся местоимением **which (that)**. Если местоимения **who, which, that** являются в предложении не подлежащим, а дополнением, они обычно опускаются.

The message *which has just come* is important.

Сообщение, *которое только что пришло*, важно.

The man *who took part in the conference yesterday* is a well-known scientist.

Человек, *который принял участие в конференции вчера*, хорошо известный ученый.

Here is the article (*which/that*) *I recommended you to read*.

Вот статья, *которую я порекомендовал тебе прочитать*.

Если перед местоимением стоит предлог (о котором, с которым и т.д.), то при пропуске местоимения он ставится после глагола, а при наличии дополнения – после дополнения.

The scientist *you wanted to talk to* is coming next week.

Ученый, *с которым вы хотели поговорить*, приезжает на следующей неделе.

This is the book *you are looking for*.

Вот книга, *которую вы ищете*.

Unit 12

Употребление глаголов *to be, to have, shall, will, should and would*

12.1. Глагол *to be*

Глагол *to be* употребляется:

1. в качестве смыслового глагола (*быть, находиться*):

His pen *was* on the table.

Его ручка *была (находилась)* на столе.

2. в качестве вспомогательного глагола времен страдательного залога (Passive Voice):

He *was asked* to come.

Его *попросили* прийти.

3. в качестве вспомогательного глагола времен группы Continuous and Perfect Continuous:

He *was waiting* for her at 9 o'clock yesterday.

Он *ждал* ее вчера в 9 часов.

He *has been waiting* for two hours.

Он *ждет* ее в течение двух часов.

4. в качестве модального глагола долженствования в сочетании с инфинитивом с частицей *to* – *должен* (в соответствии с намеченным планом или договоренностью):

The teacher *is to* come at 3 o'clock.

Учитель *должен* прийти в 3 часа.

12.2. Глагол *to have*

Глагол *to have* употребляется:

1. в качестве смыслового глагола (*иметь, обладать*):

He *has* a new car.

У него *есть* новая машина.

(Он *имеет* новую машину.)

2. в качестве вспомогательного глагола времен группы Perfect:

He *has sent* a letter to her today.

Сегодня он *послал* ей письмо.

3. в качестве модального глагола долженствования в сочетании с инфинитивом с частицей *to* – *приходится, вынужден, должен* (для выражения необходимости, обусловленной внешними обстоятельствами):

He *has to* get up early.

Ему *приходится* (он *вынужден*) вставать рано.

12.3. Глагол *shall*

Глагол *shall* употребляется:

1. в качестве вспомогательного глагола с 1-м л. ед. и мн. числа форм будущих времен:

I (we) *shall* write a letter to him.

Я *напишу* (Мы *напишем*) ему письмо.

2. в качестве модального глагола с 1-м и 3-м лицом при обращении к собеседнику за разрешением:

Shall I read this text?

Мне *читать* этот текст?

3. в качестве модального глагола со 2-м и 3-м лицом с оттенком обещания, угрозы, предостережения:

You *shall* do as I say.

Вы *сделаете* так, как я говорю.

4. в качестве модального глагола со 2-м и 3-м лицом с оттенком долженствования (в договорах, контрактах и других документах):

The first payment *shall be* made within five days.

Первый платеж *должен быть произведен* (будет произведен) в течение пяти дней.

12.4. Глагол *will*

Глагол *will* употребляется:

1. в качестве вспомогательного глагола будущих времен:

You *will see* her tomorrow.

Вы *увидите* ее завтра.

2. в качестве модального глагола, придающего будущему действию оттенок просьбы, приглашения:

Will you *close* the window?

Закройте, пожалуйста, окно.

3. в качестве модального глагола, придающего будущему действию оттенок обещания, намерения, согласия, желания:

I *will phone* you tomorrow.

Я *позвоню* вам завтра.

12.5. Глагол *should*

Глагол *should* употребляется:

1. в качестве модального глагола, имеющего значение *следует, должен* (совет):

He *should* help them.

Ему *следует* (Он *должен*) помочь им.

2. в качестве модального глагола, имеющего значение *должен* (долг, обязанность):

We *should* be polite to each other.

Мы *должны* быть вежливы по отношению друг к другу.

12.6. Глагол *would*

Глагол *would* употребляется:

1. в качестве модального глагола для выражения просьбы, приглашения:

Would you *mind* opening the window?

Будьте добры открыть окно.

2. для образования сослагательного наклонения в главной части нереальных условных предложений:

He *would go* to the cinema if he had time.

Он *пошел бы* в кино, если бы у него было время.

3. в качестве вспомогательного глагола для образования глагольных форм Future-in-the-Past:

He said he *would return* soon.

Он сказал, что он скоро *вернется*.

4. для выражения повторности действия в прошлом — *бывало, имел обыкновение*:

She *would sit* for hours on the river bank.

Она, *бывало*, сидела часами на берегу реки.

ENGLISH-RUSSIAN VOCABULARY (АНГЛО-РУССКИЙ УЧЕБНЫЙ СЛОВАРЬ)

Abbreviations

adj – adjective – прилагательное

adv – adverb – наречие

cj – conjunction – союз

n – noun – существительное

pl – plural – множественное число

prep – preposition – предлог

pron – pronoun – местоимение

v – verb – глагол

The number indicates the unit in which the word first appears in the book.

A

academia [ˌækəˈdiːmiə] 1 *n* научные круги; профессура

accept [əkˈsept] 12 *v* принимать, одобрять, признавать

acceptable [əkˈseptəbl] 12 *adj* приемлемый, подходящий, допустимый

acceptance [əkˈseptəns] 12 *n* принятие, одобрение, согласие

access [ˈæksəs] 1 *n* *v* доступ, обращение; иметь (получить) доступ.

gain access (to) 10 получить доступ (к)

accomplish [əˈkʌmpliʃ] 3 *v* выполнять

accomplish a task 3 выполнять задание

account [əˈkaunt] 5 *n* аккаунт, учетная запись; отчет, доклад, описание, рассказ; счет

take into account 5 принимать во внимание, учитывать

account for (smth) 5 *v* составлять; объяснять (что-л.); отчитываться (в чем-л.), отвечать (за что-л.)

accurate [ˈækjʊrət] 7 *adj* точный, тщательный

accurately [ˈækjʊrətli] 7 *adv* точно; тщательно

achieve [əˈtʃiːv] 12 *v* достигать, добиваться

ad [æd] 11 *сокр. от advertisement*

adjust [ədʒʌst] 6 *v* регулировать; настраивать; корректировать

adjustment 6 *n* регулирование; настройка; корректировка

advantage [ədˈvɑːntidʒ] 1 *n* преимущество; выгода, польза

take advantage of smth 1 воспользоваться чем-л.

advert [ˈædvɜːt] 11 *сокр. от advertisement*

advertise [ˈædvətaɪz] 11 *v* рекламировать, помещать объявление

advertisement [ədˈvɜːtismənt] 11 *n* реклама, объявление

affect [əˈfekt] 10 *v* действовать, воздействовать, влиять

aid [ˈeid] 11 *n* помощь, содействие

aids 11 *n* вспомогательные средства, пособия

visual aids [ˈviʒuəl] 11 наглядные пособия; визуальные вспомогательные средства

align [əˈlain] 6 *v* выравнивать, располагать по одной линии

align left (right) 6 выравнивать по левому краю (по правому краю)

allow [ə'laʊ] 6 *v* разрешать; давать разрешение; позволять

alter ['ɔ:lɪə] 1 *v* изменять, перестраивать, преобразовывать

alteration [ˌɔ:lɪə'teɪʃ(ə)n] 1 *n* изменение, перестройка, преобразование

amend [ə'mend] 6 *v* изменять, вносить поправки, редактировать

amendment 6 *v* поправка; изменение

analog [ˈænəlɒɡ] **form** 1 аналоговая форма

animation [ˌæni'meɪʃ(ə)n] 11 *n* анимация (создание движущихся изображений на экране дисплея); мультипликация

annotate ['ænəteɪt] 1 *v* давать примечание; комментировать, снабжать комментарием; аннотировать

anticipate [æn'tɪsɪpeɪt] 1 *v* опережать, упреждать, предупреждать

apart from [ə'pa:t] 11 *adv* не говоря уже о, кроме, не считая

app 1 *сокр. от application*

appear [ə'piə] 10 *v* показываться, появляться; казаться, производить впечатление

appearance [ə'piərəns] 10 *n* внешний вид; появление

applet ['æplɪt] 7 *n* прикладная минипрограмма; апплет

appliance [ə'plaiəns] 12 *n* прибор, приспособление, устройство

household ['haʊshəʊld] 12 **appliances** бытовая техника, бытовые приборы

application [ˌæpli'keɪʃn] 1 *n* приложение, прикладная программа; применение, использование

application program 1 прикладная программа, приложение

interactive application 1 интерактивное приложение; интерактивная прикладная программа

run an application 1 запустить (использовать) приложение

spreadsheet application 6 табличное приложение

apply [ə'plai] 1 *v* использовать, применять; прилагать, прикладывать

approach [ə'prəʊtʃ] 7 *n v* подход, позиция, метод; подходить, приближаться; обращаться (к кому-л.); браться, взяться

approach to the problem 7 подход (путь) к разрешению проблемы

approximate [ə'prɒksɪmeɪt] 4 *v* приближать; приближенно равняться; [ə'prɒksɪmɪt] *adj* приблизительный, приближенный; приближающий

assess [ə'ses] 2 *v* оценивать, давать оценку

assign [ə'saɪn] 3 *v* назначать, присваивать; давать

assign a task 3 давать задание

assistant [ə'sɪst(ə)nt] 3 *n* помощник, ассистент

personal digital assistant 3 «персональный цифровой секретарь», карманный персональный компьютер

attach [ə'tætʃ] 3 *v* прикреплять, присоединять, подсоединять

attachment 3 *n* прилагаемый файл; прикрепление, присоединение; приспособление, приставка

attempt [ə'tempt] 10 *n v* попытка; проба; пытаться, делать попытку

augment [ɔ:g'ment] 1 *v* прибавлять, дополнять; увеличивать(ся)

authentication [ˌɔ:θenti'keɪʃ(ə)n] 10 *n* аутентификация, подтверждение прав доступа (сервис в системе контроля доступа); подтверждение подлинности; опознавание

available [ə'veɪləbl] 1 *adj* доступный; имеющийся в наличии, наличный

availability [ə,veɪlə'bɪlɪtɪ] 1 *n* доступность; наличие; готовность; возможность использования

average ['ævərɪdʒ] 3 *n adj v* среднее (число); средний; обычный; в среднем равняться

on average 3 в среднем

aware [ə'weə] 10 *adj* знающий, осведомленный

be aware (of) 10 знать, быть осведомленным (сведущим) в чем-л.

B

backbone ['bækbəʊn] 8 *adj n* стержневой, основной, базовый; магистральный; магистраль; магистраль сети, магистральный кабель

backup ['bækʌp] 2 *n adj* резервирование; резервная копия; резервное устройство; поддержка; вспомогательный, резервный, дублирующий

band [bænd] 9 *n* полоса (частот); диапазон

bandwidth ['bændwɪðθ] *n* 9 полоса (частот); полоса пропускания; пропускная способность (канала)

be made up of 8 состоять из

beneficial [ˌbenɪ'fiʃl] 9 *adj* выгодный; полезный

benefit ['benɪfɪt] 9 *n v* выгода, польза; извлекать пользу, выгоду

board [bɔ:d] 4 *n* плата; (коммутационная) доска; панель; пульт; стол; щит

circuit ['sɜ:kit] **board** 4 монтажная плата

bold ['bəʊld] 9 *adj* жирный, полужирный (о шрифте)

boot [bu:t] 4 *n v* (начальная) загрузка (компьютера); загружать; выполнять начальную загрузку

broadband ['brɔ:dbænd] *n* 9 широкополосная передача

browse [braʊz] 3 *v* просматривать (*напр.* файл)

browser 3 *n* браузер (программа для навигации и просмотра Интернет-сайтов)

bug [bʌg] 6 *n* ошибка (в программе или системе)

fix bugs 6 устранять (исправлять, корректировать) ошибки

burn [bɜ:n] 4 *v* записывать файлы на компакт-диск

bus [bʌs] 4 *n* шина; магистральная шина, магистраль; канал (передачи информации)

external [ɪk'stɜ:nl] **bus** 4 внешняя шина

internal [ɪn'stɜ:nl] **bus** 4 внутренняя шина

universal serial bus (USB) 4 универсальная последовательная шина, интерфейс USB (*ю-эс-би*)

button [bʌtn] 3 *n* кнопка

mouse button 3 кнопка мыши

C

cable ['keɪb(ə)l] 4 *n* кабель, кабельный шнур

cancel ['kænsəl] 10 *v* отменять; аннулировать

capability [ˌkeɪpə'bɪlɪtɪ] 3 *n* способность

capable ['keɪpəbl] 3 *adj* способный

capacity [kə'pæsɪtɪ] 3 *n* емкость; мощность, нагрузка, производительность

memory capacity 3 емкость памяти

caption ['kæpʃ(ə)n] 11 *n* подпись (под иллюстрацией); надпись

card [kɑ:d] *n* 4 плата; карта

expansion card 4 плата расширения, расширительная плата

carry out 3 *v* выполнять

carry out a task 3 выполнять задание

case [keɪs] 9 *n* регистр (клавиатуры)

lower case 9 нижний регистр

upper case 9 верхний регистр
cause [kɔːz] 10 *n* в причина; вызывать, являться причиной
character [ˈkærəktə] 11 *n* знак, символ; цифра, буква
charge [tʃɑːdʒ] 2 *n* в заряд; (*pl.*) расходы; заряжать
be charged with 2 поручать
be in charge of 2 руководить; отвечать за (кого-л., что-л.)
charger 2 *n* зарядное устройство
chart [tʃɑːt] 11 *n* диаграмма, схема, таблица, график
pie [paɪ] **chart** 11 секторная диаграмма
chip 3 *n* кристалл; микросхема, интегральная схема
memory chip 3 кристалл памяти
chunky [ˈtʃʌŋki] 12 *adj* громоздкий
circuit [ˈsəːkit] 3 *n* схема, цепь, контур
integrated circuit 3 интегральная схема
click 3 *v* нажать кнопку мыши, выполнить щелчок мышью
click on an icon 3 выбрать пиктограмму, щелкнуть на иконке
cloud computing [ˌklaʊdˈkəmputɪŋ] 9 облачные вычисления, «облака» (модель предоставления вычислительных ресурсов через Интернет)
cloud computing technology 9 технология облачных вычислений
code [ˈkəʊd] 7 *n* код; (машинная) программа
assembly code 7 ассемблерный код
binary [ˈbaɪnəri] **code** 7 двоичный код
machine [məˈʃiːn] **code** 7 машинный код
source code 7 исходный код
codec [ˈkəʊdek] 9 *n* кодек, кодек-декодер (блок аппаратуры цифровой передачи речевых сигналов по

телефонным каналам); компрессор-декомпрессор (данных)
collocation [ˌkɒləˈkeɪʃ(ə)n] 2 *n* сочетание слов; устойчивое словосочетание
compatibility [kəmˌpætəˈbɪləti] 4 *n* совместимость; соответствие
compatible [kəmˈpætəb(ə)l] 4 *adj* совместимый
compilation [ˌkɒmpɪˈleɪʃn] 7 *n* компилирование; компиляция; собирание (материала, фактов)
compile [kəmˈpaɪl] 7 *v* компилировать, составлять; собирать (материал, факты и т.п.)
compile time 7 время компиляции, время работы компилятора; период (этап) компиляции
compiler [kəmˈpaɪlə] 7 *n* компилятор, компилирующая программа
complete [kəmˈpliːt] 3 *adj* *v* полный, законченный, завершённый; заканчивать, завершать
complex [ˈkɒmpləks] 3 *adj* сложный, составной, комплексный; трудный
complexity [ˈkɒmpləksɪ] 3 *n* сложность; что-л. сложное
compress [kəmˈpres] 5 *v* сжимать; уплотнять
compression [kəmˈpreʃ(ə)n] 5 *v* сжатие; уплотнение
data compression 5 сжатие (уплотнение) данных
compromise [ˈkɒmprəmaɪz] 10 *v* компрометировать, дискредитировать (защищенную информацию в результате ее несанкционированного раскрытия или утраты)
computer [kəmˈpjʊtə] 3 *n* компьютер
desktop computer 3 настольный компьютер
general-purpose [ˈpəːpəs] **computer** 3 универсальный компьютер

laptop computer 3 лэптоп, переносной персональный компьютер

mainframe computer 3 мэйн-фрейм; мощный центральный компьютер, используемый для решения сложных вычислительных задач

networked computer 3 сетевой компьютер

notebook computer 3 ноутбук, переносной персональный компьютер

personal computer 3 персональный компьютер

standalone computer 3 автономный компьютер

tablet ['tæblɪt] **computer** 3 планшетный компьютер; планшет

conceal [kən'si:l] 10 *v* скрывать; укрывать

conduct [kən'dʌkt] 8 *v* проводить; ставить (опыты); вести; руководить

confine [kən'fain] 10 *v* ограничивать

conform [kən'fɔ:m] 8 *v* соответствовать

connect [kə'nekt] 4 *v* соединять, присоединять; включать, подключать,

connection [kə'nekʃ(ə)n] 4 *n* соединение, связь, присоединение; включение, подключение

connector 4 *n* соединитель, (штепсельный) разъем

console ['kɒnsəʊl] 8 *n* пульт (управления); пульт оператора; консоль

consume [kən'sju:m] 12 *v* потреблять, расходовать

consumer 12 *n* потребитель

consumption [kən'sʌmpʃ(ə)n] 12 *n* потребление; расход

power ['paʊə] 12 **consumption** потребляемая мощность

contain [kən'tein] 8 *v* содержать в себе, вмещать

content ['kɒntent] 3 *n* содержание, сущность; контент; (*pl.*) содержа-

ние, содержимое; объем, количество; оглавление

contribute [kən'tribju:t] 1 *v* способствовать, содействовать; делать вклад

contribution [ˌkɒntri'bju:ʃ(ə)n] 1 *n* вклад; содействие

make a contribution to smth 1 сделать вклад во что-л.

convenience [kən'vi:niəns] 11 *n* удобство

convenient [kən'vi:niənt] 11 *adj* удобный, подходящий

conventions [kən'venʃ(ə)nz] 7 *n* условные обозначения

convert [kən'vɜ:t] 11 *v* преобразовывать; превращать

couple ['kʌp(ə)l] 9 *n v* пара; спаривать, сцеплять, соединять

coupled ['kʌp(ə)ld] 9 *adj* связанный, соединенный, сочлененный

create [kri'eɪt] 3 *v* создавать, творить

creation [kri'eɪʃ(ə)n] 3 *n* создание; разработка

current ['kʌrənt] 12 *adj* текущий, современный

currently 12 *adv* теперь, в настоящее время, ныне

customize ['kʌstəmaɪz] 5 *v* настраивать; подстраивать; переделывать, подгонять (под индивидуального заказчика)

D

damage ['dæmɪdʒ] 10 *n v* повреждение, разрушение, дефект; повреждать, разрушать, наносить ущерб

data ['deɪtə] 1 *n* данные; информация; сведения

edit data 6 редактировать данные

input data 4 входные данные

output data 4 выходные данные

database ['deɪtəbeɪs] 1 *n* база данных

deal (with) [di:l] (**dealt** [delt]) 9 *v* иметь дело (с), рассматривать вопрос

debug [di:'bʌg] 6 *v* отлаживать (программу)

decrease ['di:kri:s] 4 *n* уменьшение, снижение, падение; [di:'kri:s] *v* уменьшать, снижать, падать, убывать

dedicated ['dedikeitɪd] 9 *adj* специализированный; выделенный, назначенный

default [di'fɔ:lt] 7 *n adj* умолчание, оператор умолчания; значение по умолчанию; устанавливаемый по умолчанию; подразумеваемый

define [di'fain] 7 *v* определять; характеризовать; устанавливать

definition [,defi'ni](ə)n] 7 *n* определение; толкование

delete [di'li:t] 3 *v* удалять, стирать, вычеркивать

demand [di'ma:nd] 2 *n v* требование, запрос; потребность, нужда; спрос; требовать, запрашивать; нуждаться

be in demand 2 пользоваться спросом

denary ['di:nəri] 7 *adj* десятичный

dense 12 *adj* плотный, густой, непроницаемый

density ['densəti] 12 *n* плотность, концентрация

pixel density 12 плотность пикселей

depend [di'pend] 3 *v* (on/upon) зависеть; обуславливаться

dependence [di'pendəns] 3 *n* зависимость; обусловленность

deployment [di'plɔimənt] 2 *n* использование, применение

desktop 3 *n* рабочий стол; настольный компьютер

desktop publishing (DTP) 6 настольная издательская система (НИС), настольная редакционно-

издательская система (система, предназначенная для верстки печатных изданий: книг, газет, журналов, проспектов и т.д.)

desktop publishing software 6 программное обеспечение для настольных издательских систем

detect [di'tekt] 5 *v* обнаруживать,

выявлять

determination [di,tə:'mi'nei](ə)n] 7 *n* определение; установление

determine [di'tə:min] 7 *v* определять, устанавливать

develop [di'veləp] 1 *v* разрабатывать, развивать, совершенствовать

developer 1 *n* разработчик

development 1 *n* разработка, развитие, совершенствование

under development 1 (находящийся) в процессе разработки

device [di'vais] 4 *n* устройство; прибор; приспособление; механизм; аппарат

input device 4 устройство ввода

input/output device 4 устройство ввода/вывода

output device 4 устройство вывода

pointing device 4 устройство управления позицией; координатное устройство; указательное устройство

diagram ['daɪəgræm] 11 *n* диаграмма; схема; график, графическое представление

differ ['difə] 6 *v* отличаться, различаться

difference ['dif(ə)rəns] 6 *n* отличие, различие

digit ['didʒit] 1 *n* цифра; разряд

digital ['didʒitl] 1 *adj* цифровой

digital form 1 цифровая форма

dimension [daɪ'menʃn] 1 *n* размер; величина; объем

give a dimension to smth 1 придавать размах (масштаб) чему-л.

take the dimensions of smth 1 измерить что-л.

directory [d(a)'i:rekt(ə)ri] 5 *n* дирек- тория; папка; каталог; справочник

disadvantage [,disəd'va:ntidʒ] 1 *n* недостаток; ущерб; невыгодное положение

disconnect [,diskə'nekt] 4 *v* разъеди- нять, размыкать

disk 3 *n* диск

floppy disk 3 *n* гибкий диск

hard disk 3 *n* жесткий диск

diskette [di'sket] 3 *n* дискета

distinct [di'stɪŋkt] 4 *adj* явный, от- четливый; различный, разный

distinct (from) [di'stɪŋkt] 4 *adj* от- личный (от других)

distinction [di'stɪŋ(k)ʃ(ə)n] 4 *n* раз- личие; разграничение

distribute [di'stribju:t] 1 *v* распреде- лять, распространять

distribution [di'stri'bju:ʃn] 1 *n* рас- пределение, распространение

diverse [dai'və:s] 1 *adj* разнообраз- ный, разный

diversity [dai'və:siti] 1 *n* разнообра- зие, многообразие

domain [də'mein] 1 *n* область; до- мен; зона

download ['daun,lud] 3 *v* загружать, скачивать

downloadable 3 *adj* доступный для скачивания

downsizing ['daunsaiziŋ] 1 умень- шение размеров; перенос (при- кладных систем) с больших ком- пьютеров на малые

drag 3 *v* перетаскивать, передви- гать (фрагмент изображения по экрану)

drag an icon 3 передвигать икон- ку

draw [dɹɔ:] 4 *v* чертить, вычерчи- вать

drawing ['dɹɔ:iŋ] 4 *n* чертеж, рису- нок, изображение

assembly drawing 4 сборочный чертеж

drive 3 *n* накопитель (на дисках), дисковод; привод, передача

disk drive 3 дисковод

flash drive 3 устройство флэш- памяти, флэш-накопитель, флэшка

durability [,djuərə'bɪləti] 4 *n* долго- вечность, прочность

durable ['djuərəbl] 4 *adj* долговеч- ный, прочный

E

edit ['edit] 6 *v* редактировать

edit data 6 редактировать данные

editor 6 *n* редактор, программа редактирования

text editor 6 текстовый редактор, редактор текста

eject [i'dʒekt] 4 *v* выдавать (*напр.* отпечатанный лист из принтера); испускать

eliminate [i'limineɪt] 5 *v* устранять, исключать

elimination [i,limi'neiʃ(ə)n] 5 *n* устранение, исключение

embedded [im'bedɪd] 12 *adj* вло- женный; встроенный

emerge [i'mə:dʒ] 1 *v* появляться, возникать

emergence [i'mə:dʒ(ə)ns] 1 *n* появ- ление, возникновение

employ [im'plɔɪ] 2 *v* предоставлять работу, нанимать (на работу); ис- пользовать, применять

employee [,implɔɪ'i:] 2 *n* служащий, работающий по найму

employer [im'plɔɪə] 2 *n* работода- тель, наниматель

employment [im'plɔɪmənt] 2 *n* рабо- та, служба, занятость; прием (на работу); применение, использова- ние

enable [i'neɪbl] 6 *v* давать (создавать) возможность

encompass [in'kʌmpəs] 12 *v* заключать (в себе), охватывать

encounter [in'kaʊntə] 7 *v* (неожиданно) встретиться; сталкиваться, наталкиваться

encrypt [in'kript] 10 *v* кодировать, шифровать (с целью защиты информации от несанкционированного просмотра или использования, особенно при передаче по линиям связи)

encryption [in'krip(ə)n] 10 *n* кодирование, шифрование

full-disk encryption (FDE) 10 полное шифрование диска, полно-дисковое шифрование

engage [in'geɪdʒ] 11 *v* занимать, заниматься (чем-л.)

be engaged in smth 11 заниматься чем-л.

engine ['endʒɪn] 8 *n* машина; движущий механизм; двигатель

search engine 8 система поиска, поисковая система (в Интернете), поисковик

enhance [in'ha:ns] 8 *v* улучшать, усовершенствовать

enhancement [in'ha:ns] 8 *n* усовершенствование; улучшение; модернизация; расширение (*напр.* возможностей программных средств)

ensure [in'ʃʊə] 5 *v* обеспечивать, гарантировать

enter ['entə] 3 *v* вводить, заносить, вписывать, записывать

enterprise ['entəpraɪz] 5 *n* учреждение; предметная область (базы данных)

environment [in'vai(ə)rənmənt] 5 *n* окружение, обстановка, среда, атмосфера; окружающая среда

desktop environment 5 среда настольной системы, среда рабочего стола

envision [in'vɪz(ə)n] 12 *v* представлять себе; предвидеть

equal ['i:kwəl] 1 *adj* *v* равный, одинаковый; равняться

equally 1 *adv* в равной степени; равным образом, одинаково

equation [i'kwɛɪz(ə)n] 6 *n* уравнение

equip [i'kwɪp] 2 *v* оборудовать, оснащать

equipment [i'kwɪpmənt] 2 *n* оборудование, оснащение

erase ['ɪreɪz] 3 *v* стирать (запись), разрушать (информацию)

error ['erə] 7 *n* ошибка, погрешность

compile-time error 7 ошибка этапа трансляции (семантическая или синтаксическая ошибка, делающая дальнейшую трансляцию программы невозможной)

run-time error 7 ошибка периода исполнения (ошибка в программе, обнаруживаемая только во время ее исполнения)

error-prone 7 поврежденный ошибкам

evaluate [i'væljueɪt] 2 *v* оценивать; давать оценку

evaluation [i,vælju'eɪʃn] 2 *n* оценка; оценочная функция

execute ['eksɪkju:t] 5 *v* исполнять, выполнять

expand [ɪks'pænd] 4 *v* расширять(ся), распространять(ся)

expansion [ɪk'spænz] 4 *n* расширение, растягивание

expertise [ˌeksɜ:pə'ti:z] 1 *n* специальные знания; профессиональные знания, знания эксперта; практический опыт; экспертиза, экспертный анализ

exploit [ɪk'splɔɪt] 3 *v* использовать; эксплуатировать

exploration [ˌeksplə'reɪ(ə)n] 11 *n* исследование, изучение

explore [iks'plɔ:] 11 *v* исследовать, изучать; выяснять

extract [ik'strækt] 2 *v* извлекать, выделять

e-zine ['i:zi:n] 11 *n* электронный журнал

F

facilitate [fə'siləteit] 4 *v* облегчать, способствовать

facility [fə'siliti] 6 *n* устройство, приспособление, оборудование; возможность, условие

feature ['fi:tʃə] 5 *n v* особенность, признак, свойство, характерная черта; показывать

finite ['fainait] 7 *adj* ограниченный; конечный

fire ['faɪə] 4 *v* запускать(ся), срабатывать, возбуждать(ся)

firewall ['faɪəwɔ:l] 8 *n* межсетевой экран (МЭ), брандмауэр, защитная система, заслон, «огненная стена»

firewire ['faɪəwaɪə] 4 *n* скоростной последовательный интерфейс

fit 11 *v* пригонять, приспособливать; помещаться; собирать, монтировать

fix [fiks] 6 *n v* исправление (ошибки в программе); местоположение; исправлять; настраивать, налаживать

fix an error 7 исправить ошибку

fix bugs 6 устранять (исправлять, корректировать) ошибки

fix a problem 7 уладить проблему

flame [fleim] 9 *n* «наезд» (ругань в сети в чей-л. адрес); скандальное послание

flaw [flɔ:] 10 *n* дефект, недостаток; изъян

flexibility [,freksə'biliti] 7 *n* гибкость

flexible ['freksəb(ə)l] 7 *adj* гибкий

flowchart ['fləʊtʃa:t] 7 *n* блок-схема

follow ['fɒləʊ] 7 *v* придерживаться, следовать; соблюдать

font 6 *n* шрифт

font size 6 размер шрифта

footer ['fʊtə] 6 *n* подстрочное примечание; нижний колонтитул

former ['fɔ:mə] 5 *adj* первый (из двух названных)

framework ['freimwɜ:k] 1 *n* база, основа, структура; каркас, оболочка, конструкция

fraud [frɔ:d] 9 *n* обман, мошенничество

frequency ['fri:kwənsi] 4 *n* частота; повторяемость

frequent ['fri:kwənt] 4 *adj* частый

G

gain ['gein] 10 *v* получать, приобретать; добиваться

gain access (to) 10 получить доступ (к)

gateway ['geitwei] 9 *n* сетевой шлюз (аппаратный маршрутизатор или программное обеспечение для сопряжения компьютерных сетей, использующих разные протоколы); межсетевой переход (интерфейс)

Internet gateway 9 интернет-шлюз

goal ['gəʊl] 12 *n* цель, задача

achieve [ə'tʃi:v] **a goal** 12 достичь цели

graph [græf] 11 *n* график, диаграмма

bar graph 11 гистограмма (диаграмма в виде столбцов)

line graph 11 диаграмма в виде ломаной линии

H

handle [hændl] 8 *v* обрабатывать, оперировать, манипулировать

handout ['hændaʊt] 11 *n* раздаточный материал

hardware ['hɑ:dweə] 1 *n* (аппаратное) оборудование, аппаратные средства; железо, технические средства, техническое обеспечение

header ['hedə] 6 *n* заголовок, рубрика, «шапка»; верхний колонтитул

heavy-duty [ˌhevi'dju:ti] 4 *adj* (работающий) в тяжелом режиме; предназначенный для работы в тяжелом режиме

highlight ['haɪlaɪt] 11 *v* выдвигать на первый план; придавать большое значение; ярко освещать

highway ['haɪwei] 9 *n* канал информации; магистральная шина, магистраль

information highway 9 информационная магистраль

hitherto [ˌhɪðə'tu:] 1 *adj adv* прошлый; до настоящего времени, до этого времени, до сих пор

hook up ['hʊkʌp] 8 *v* соединять, подключать, связывать

hookup ['hʊkʌp] 8 *n* присоединение, подключение

hop 12 *n* транзитный участок (линии передачи); пересылка (принятого сообщения в сеть); ретрансляция, транзит

host [həʊst] 8 *n* хост (устройство, подключенное к сети и использующее протоколы TCP/IP); главный компьютер; ведущий компьютер

hypermedia [ˌhaɪpə'mi:diə] 11 *n* гиперсреда, гипермедиа (расширенный по сравнению с гипертекстом метод организации мультимедийной информации, охватывающий разные среды)

hypertext [ˌhaɪpə'tekst] 11 *n* гипертекст, обобщенный текст (многоуровневый способ представления

информации при помощи связей между документами)

I

icon ['aɪkən] 3 *n* значок, пиктограмма (на экране компьютера), иконка

idle ['aɪdl] 10 *adj* неработающий; простаивающий, бездействующий; резервный; свободный

image ['ɪmɪdʒ] 11 *n* изображение, образ; вид

still image 11 неподвижное (статическое) изображение, неподвижный кадр; стоп-кадр; видеок кадр; фотографическое изображение, фотоснимок

implement ['ɪmplɪmənt] 2 *v* выполнять, осуществлять, реализовывать

implementation [ˌɪmplɪmənt'eɪʃn] 2 *n* выполнение, реализация

increase ['ɪŋkri:s] 4 *n* возрастание, увеличение; [ɪn'kri:s] *v* возрастить, увеличивать

indentation [ˌɪnden'teɪʃn] 7 *n* структурированное расположение текста, введение отступов

infinite ['ɪnfɪnɪt] 7 *adj* бесконечный

input ['ɪnpʊt] 4 *n* входные данные; ввод, вход; вводить данные

insert [ɪn'sɜ:t] 6 *v* вставлять, вкладывать

install [ɪn'stɔ:l] 2 *v* устанавливать, монтировать, собирать; располагать, размещать

installation 2 *n* установка, инсталляция (программного обеспечения); устройство, система

integrate ['ɪntɪgreɪt] 11 *v* объединять в единое целое, интегрировать

integrity [ɪn'tegreɪti] 2 *n* целостность; сохранность

data integrity 2 целостность данных

interconnect [ˌɪntəkəˈnekt] 8 *v* (вза-
имо)связывать

interface [ˈɪntəfeɪs] 4 *n* интерфейс,
устройство сопряжения; [ˌɪntəˈfeɪs]
v сопрягать, согласовывать; соеди-
нять, связывать с компьютером

investigation [ɪnˌvestɪˈgeɪ(ə)n] 11 *n*
исследование; расследование

investigate [ɪnˈvestɪgeɪt] 11 *v* иссле-
довать, изучать; расследовать

involve [ɪnˈvɒlv] 1 *v* быть связан-
ным, вовлекать

involvement [ɪnˈvɒlvmənt] 1 *n* во-
влечение

irrespective (of) [ˌɪrɪˈspektɪv] 9 без-
относительно (к чему-л.); незави-
симо (от чего-л.)

isochronous [aɪˈsɒkrənəs] 4 *adj* изо-
хронный

italics [iˈtæliks] 9 *n* курсив

bold italics 9 полужирный курсив

К

key [ki:] 3 *n* клавиша; набирать на
клавиатуре

function key 3 функциональная
клавиша

keyboard [ˈki:bɔ:d] 3 *n* клавиатура,
клавишная панель

keypad [ˈki:pæd] 3 *n* малая клавиа-
тура

kickstand [ˈkɪkstænd] 12 *n* подстав-
ка, стойка

L

lack 12 *n* *v* отсутствие, нехватка,
недостаток, дефицит; испытывать
недостаток, нуждаться, не иметь

language [ˈlæŋɡwɪdʒ] 7 *n* язык

assembly [əˈsembli] **language** 7
язык ассемблера

declarative [diˈklærətɪv] **language**
7 декларативный язык

high-level language 7 язык высо-
кого уровня

Hypertext [ˌhaɪpəˈtekst] **Markup
Language** (HTML) 8 язык гипер-
текстовой разметки, язык HTML

imperative [ɪmˈperətɪv] **high-level
language** 7 императивный высоко-
уровневый язык

low-level language 7 язык низкого
уровня, низкоуровневый язык

machine language 7 машинный
язык

object-oriented language 7 объ-
ектно-ориентированный язык

programming [ˈprɒɡræmɪŋ] **lan-
guage** 7 язык программирования

scripting language 7 язык сцена-
риев

laptop 3 лэптоп, переносной персо-
нальный компьютер

latter [ˈlætə] 5 *adj* последний (из
двух названных)

layer [ˈleɪə] 5 *n* слой; уровень
(иерархии)

layered [ˈleɪəd] 5 *adj* разделенный
на уровни, многоуровневый; разде-
ленный на слои, многослойный

layout [ˈleɪaʊt] 12 *n* расположение,
схема расположения, планировка,
компоновка, план

keyboard layout 12 раскладка
клавиатуры; схема расположения
клавиш на клавиатуре

lead [li:d] (**led**) 10 *v* руководить,
возглавлять, управлять

lead to *v* приводить (к чему-л.),
вызвать (что-л.), быть причиной
(чего-л.), иметь результатом

link 8 *n* *v* связь, звено, связующее
звено; соединять, связывать

log in 1 *v* входить в систему

log out 10 *v* выходить из системы

loop [lu:p] 7 *n* *v* цикл (программы);
организовывать цикл или циклы (в
программе)

infinite loop 7 бесконечный цикл (части) программы (*напр.* в результате ошибки)

loudspeaker [ˌlaʊdˈspi:kə] 3 *n* динамик; громкоговоритель

M

mainboard [ˈmeɪnbɔ:d] 3 *n* материнская плата, системная плата

maintain [meɪnˈteɪn] 1 *v* обслуживать; содержать в исправности; поддерживать, сохранять

maintenance [ˈmeɪnt(ə)nəns] 1 *n* текущее обслуживание; текущий ремонт; (техническое) обслуживание; эксплуатация (системы); сопровождение (*напр.* системы программного обеспечения); поддержание, сохранение

major [ˈmeɪdʒə] 6 *adj* *v* главный; больший, более важный; специализироваться по какому-л. предмету

malware [ˈmælwɛə] 10 *n* вредоносное программное обеспечение (средство)

margin [ˈmɑ:dʒɪn] 6 *n* поле (печатной страницы); край, граница

master [ˈmɑ:stə] 12 *n* ведущее (задающее) устройство; «хозяин»; оригинал, эталон

match [mætʃ] 4 *v* *n* согласовывать, приводить в соответствие; подгонять, подбирать; сочетать; выравнивать; совпадение

measure [ˈmeʒə] 8 *n* *v* мера; степень; измерять, иметь размеры

measurement [ˈmeʒəmənt] 8 *n* размер, измерение

media [ˈmi:diə] 1 *n* *pl.* от **medium**; 11 среда

rich media 11 рич-медиа (технология изготовления рекламных материалов, обычно использующая Flash и Java)

medium [ˈmi:diəm] (*pl.*) **media** 1 *n* средство, способ; среда

memory [ˈmeməri] 3 *n* память, запоминающее устройство

flash memory 3 флэш-память, энергонезависимая память, которая сохраняет свое содержимое без питания и регенерации

Compact Disk Read-Only Memory (CD-ROM) 3 ПЗУ на компакт-диске, компакт-диск

non-volatile [ˌnɒnˈvɒlətaɪl]

memory 3 энергонезависимая память

Random Access Memory (RAM) 3 память с произвольной выборкой

Read Only Memory (ROM) 3 постоянная память

volatile [ˈvɒlətaɪl] **memory** 3 энергозависимая память

minor [ˈmaɪnə] 6 *adj* *v* незначительный, второстепенный; изучать непрофилирующий предмет (в качестве второй специальности)

mode [ˈməʊd] 12 *n* режим (работы); способ, метод, принцип (работы)

modem [ˈməʊdem] 8 *n* модем

dial-up [ˈdaɪəlʌp] **modem** 8 модем коммутируемой линии передачи

modularity [ˌmɒdjuˈlærɪti] 7 *n* модульность, модульный принцип (организации)

monitor [ˈmɒnɪtə] 4 *n* монитор; дисплей

CRT (Cathode Ray Tube) monitor 4 ЭЛТ-монитор, монитор на основе электронно-лучевой трубки

LCD (Liquid Crystal Display) monitor 4 ЖК-монитор, жидкокристаллический монитор

LED (Light-Emitting Diodes) monitor 4 LED-монитор, монитор на основе светоизлучающих диодов

motherboard ['mʌðəbɔ:d] 3 *n* материнская плата, системная плата

mount ['maunt] 12 *v* – устанавливать, монтировать

mouse pad 2 коврик для мыши

multiple ['mʌltip(ə)l] 4 *adj n* многократный, множественный; многочисленный

multitude ['mʌltitju:d] 12 *n* множество; большое число

N

Net (the) 2 *n* Интернет

surf [sə:f] **the Net** 2 исследовать сеть, осуществлять поиск в сети

network ['netwə:k] 2 *n* сеть; сетка; схема

cellular ['seljʊlə] **network** 9 сотовая сеть

notation [nəu'tei(ə)n] 7 *n* запись; представление; система обозначений; нотация

notebook 3 ноутбук, переносной персональный компьютер

notification [ˌnəʊtifi'kei(ə)n] 12 *n* уведомление, извещение

number (the) ['nʌmbə] 7 *n* число, количество

a number of 7 ряд, некоторое число

O

obtain [əb'tein] 3 получать, приобретать

obtain an order 3 получать заказ

occur [ə'kə:] 7 *v* случаться, происходить

operate ['ɒpəreɪt] 2 *v* приводить в действие; работать, функционировать, производить операции

operation 2 *n* операция, действие; работа, функционирование; режим работы; эксплуатация

be in operation 2 действовать, функционировать, работать

come into operation 2 начинать действовать (работать); быть пущенным в эксплуатацию

order ['ɔ:də] 3 *n v* заказ; порядок; заказывать

in order to 3 для того, чтобы

output ['aʊtput] *n v* выходные данные, выходящая информация (на компьютере); вывод, выход; производительность; выводить, подавать на выход

outsourcing ['aʊtsɔ:sɪŋ] 1 привлечение внешних исполнителей для решения собственных проблем (напр. для разработки проекта)

P

pan [pæn] 9 *v* панорамировать

password ['pa:swə:d] 10 *n* пароль

path [pɑ:θ] 8 *n* путь, дорожка, тракт, канал; маршрут (в сети)

pattern ['pætn] 8 *n* образец, модель; схема; структура; шаблон; рисунок

peripheral [pə'rɪf(ə)rəl] 4 *n* периферийное устройство (оборудование), внешнее устройство

perform [pə'fɔ:m] 1 *v* выполнять, производить

performance [pə'fɔ:məns] 1 *n* выполнение, исполнение; работа, функционирование; (рабочая) характеристика; производительность

photocopier ['fəʊtə,kɒpiə] 4 *n* ксерокс, фотокопирующее устройство

piconet [ˌpi:kəʊ'net] 12 *n* пикосеть, сеть беспроводного доступа с сотами очень малых размеров

pin 4 *n* (контактный) штырек; штекер; вывод; контакт; пуансон; штифт

pitch 12 *n v* наклон, уклон; угол наклона; иметь наклон, уклон; изменять угол наклона

plotter ['plɒtə] 4 *n* плоттер; графопостроитель

plug [plʌg] **in (into)** 8 *v* вставлять в контактное гнездо

point 4 *n v* точка, пункт; точка (знак); указывать, показывать

pointer 4 *n* указатель; стрелка (курсор в форме стрелки)

port [pɔ:t] 4 *n* порт (многоразрядный вход или выход устройства)

power ['paʊə] 12 *n* мощность; энергия; способность; производительность

precise [pri'sais] 7 *adj* точный, определенный; тщательный

precisely [pri'saisli] 7 *adv* точно, определено; тщательно

press 3 нажимать; сжимать, спрессовывать, уплотнять

press a key 3 нажимать на клавишу

prevent (from) [pri'vent] 9 *v* мешать, препятствовать (чему-л.), не допускать; предотвращать

prevention [pri'venʃ(ə)n] 9 *n* предотвращение, предупреждение

print 4 *n v* печатать, распечатка; печатать, распечатывать

printer ['prɪntə] 4 *n* принтер, печатающее устройство

dot-matrix printer 4 точечно-матричный принтер

inkjet ['ɪŋk,dʒet] **printer** 4 струйный принтер

laser ['leɪzə] **printer** 4 лазерный принтер

printout 4 *n* распечатка, вывод (данных) на принтер

privacy ['praɪvəsi] 10 *n* секретность, конфиденциальность (информации); личная тайна (характер информации); сохранение тайны (при хранении информации)

computer privacy 10 защищенность компьютера

process ['prəuses] 1 *n v* процесс, способ, метод; обрабатывать; перерабатывать

processing 1 *n* обработка; технологический процесс, технология

data processing 1 обработка данных

word processing 1 обработка текстов

processor 1 *n* процессор (аппаратное устройство или обрабатывающая программа); узел обработки

word processor 1 текстовый процессор (программа подготовки и редактирования текста)

projector [prə'dʒektə] 11 проектор

overhead [ˌəʊvə'hed] **projector** 11 кодоскоп

protocol ['prɒtəˌkɒl] 8 *n* протокол

Hypertext Transfer ['trænsfə:]

Protocol (HTTP) 8 протокол передачи гипертекстовых файлов, протокол HTTP (используемый WWW-браузерами и WWW-серверами при передаче HTML-файлов)

Internet Protocol (IP) 8 протокол (сети) интернет, интернетовский протокол

Transmission [trænz'mɪʃ(ə)n] **Control Protocol (TCP)** 8 протокол управления передачей (основной протокол транспортного и сеансового уровней в наборе протоколов Интернет)

run a protocol 8 запустить протокол

provide [prə'vaɪd] 2 *v* обеспечивать, снабжать

provider 2 *n* провайдер, поставщик **network service provider** 2 поставщик сетевых услуг

proxy ['prɒksi] 8 *n* модуль доступа; программа-посредник

pseudocode ['sju:də(u)kəud] 7 *n* псевдокод, символический код
purpose ['pə:pəs] 11 *n* цель, намерение

Q

query ['kwi(ə)ri] 1 *n* запрос (критерий поиска объекта в базе данных); обращаться с запросом

R

range ['reindʒ] 2 *n* ряд, серия, диапазон, интервал, предел; колебаться в пределах, классифицировать, простирается

rate ['reit] 8 *n* скорость, интенсивность, частота

transmission rate 8 скорость передачи

ratio ['riʃiəu] 12 *n* отношение, соотношение; коэффициент

screen ratio 12 соотношение сторон экрана

real estate ['ri:əl,steit] 12 «недвижимость» (в технологии интерактивных видеоизображений – доступное пространство на видеодиске)

recognition [,rekəg'niʃn] 5 *n* распознавание, опознавание; различение

recognize ['rekəgnaiz] 5 *v* распознавать, опознавать, различать

record ['rekɔ:d] 1 запись, регистрация; [ri'kɔ:d] *v* записывать, регистрировать

reduce [ri'dju:s] 11 *v* уменьшать, сокращать, понижать

reduction [ri'dʌkʃn] 11 *n* уменьшение, сокращение, понижение

refer [ri'fə:] 3 *v* отсылать, направлять; справляться; относиться, иметь отношение (к чему-л.); ссылаться (на что-л.)

refer to information 3 обращаться к информации; обращаться за информацией

reference ['ref(ə)rəns] 3 *n* ссылка; отсылка, сноска; рекомендация, отзыв

make reference to storage 3 обращаться к запоминающему устройству

reference book 3 справочник

regarding [ri'ga:diŋ] 10 *prep* относительно, касательно, о

regardless (of) [ri'ga:dlis] 10 *phr prep* независимо от, не считаясь, не принимая во внимание

release [ri'li:s] 6 *v* *n* выпускать; разъединять; отпускать; разблокировать; выпуск; разъединение; отпущение; разблокировка

reliable [ri'laiəb(ə)l] 9 *adj* надежный

rely [ri'lai] 9 *v* полагаться, надеяться; доверять

remote [ri'məut] 9 *adj* дистанционный, удаленный

removable [ri'mu:vəb(ə)l] 4 *adj* съемный, сменный

removal [ri'mu:vəl] 4 *n* устранение; удаление; перемещение

remove [ri'mu:v] 4 *v* удалять, устранять; перемещать

replace [ri'pleis] 4 *v* заменять; подставлять

replacement 4 *n* замена; замещение; подстановка; перестановка

reply [ri'plai] 9 *n* *v* ответ; отвечать

report [ri'pɔ:t] 11 *n* *v* доклад, сообщение, отчет; сообщать, докладывать, представлять отчет

represent [,repri'zent] 7 *v* представлять; изображать

representation [,reprizen'teiʃ(ə)n] 7 *n* представление; изображение

request [ri'kwest] 6 *n* *v* запрос, требование; запрашивать, требовать

require [ri'kwaɪə] 2 *v* нуждаться, требовать

requirement [ri'kwaɪəmənt] 2 *n* требование, потребность; (*pl*) технические требования

meet the requirements (the needs) 2 удовлетворять условиям (требованиям, потребности)

research [ri'sə:tʃ] 2 *n* *v* научно-исследовательская работа, исследование; исследовать, заниматься исследованиями

carry out/do research 2 проводить исследования/научно-исследовательскую работу, исследовать

resolution [,reza'lʊ:ʃ(ə)n] 4 *n* разрешающая способность; разрешение в сервисе разрешения имен; разрешение (проблемы)

respond [ri'spɒnd] 3 *v* отвечать, реагировать, срабатывать

response [ri'spɒns] 12 *n* характеристика; зависимость; реакция, отклик, ответ; ответное действие, срабатывание

responsibility [ri,sponsə'biliti] 5 *n* ответственность; обязанность, обязательство

responsible [ri'spɒnsəb(ə)l] 5 *adj* ответственный, несущий ответственность

be responsible for 5 быть ответственным за что-л.

restrict [ri'strɪkt] 8 *v* ограничивать

restriction [ri'strɪk(ə)n] 8 *n* ограничение

result [ri'zʌlt] 10 *v* *n* результат, исход; кончатся, иметь результатом (**in**); следовать, происходить в результате (**from**)

retrieve [ri'tri:v] 1 *v* отыскивать; извлекать (информацию)

retrieval 1 *n* поиск; извлечение (информации)

data retrieval 1 поиск данных; извлечение данных

reveal [ri'vi:l] 1 *v* показывать, воспроизводить

ribbon ['ribən] 4 *n* лента (обычно красящая или копировальная)

rotate [rəu'teɪt] 3 *v* поворачивать, вращать

rotate an icon 3 поворачивать, вращать иконку

route ['ru:t] 8 *n* *v* трасса, путь, маршрут, тракт (передачи информации); прокладывать маршрут, назначать тракт (передачи информации)

router ['ru:tə] 8 *n* роутер, маршрутизатор (устройство для соединения сетей, использующих разные архитектуры и протоколы)

run [ɹʌn] (**ran**; **run**) 5 *v* выполнять, прогонять (программу); пользоваться (компьютерной программой); работать (о механизме); эксплуатировать (оборудование), приводить в действие, пускать в ход; руководить, управлять

run a protocol 8 запустить протокол

S

safeguard ['seɪfgɑ:d] 10 *n* *v* предохранительное устройство; защитная мера; предохранять, защищать, охранять

save ['seɪv] 5 *v* сохранять (файлы, работу и т.д. в компьютере); экономить; сберегать, копить

scatternet ['skætənɛt] 12 *n* распределенная сеть (комплекс, состоящий из двух и более пикосетей, расположенных на одной общей территории)

scramble [skræmbl] 10 *v* скремблировать (шифровать путем перестановки и инвертирования участков спектра или групп символов); зашифровывать, шифровать

screen [skri:n] 5 *n* экран

screensaver *мж.* **screen saver** ['skri:n,seivə] 5 *n* скринсейвер, экранная заставка

search [sə:tʃ] 8 *n* поиск, перебор (вариантов); искать, перебирать (варианты)

search engine ['endʒin] 8 система поиска, поисковая система (в Интернете), поисковик

secure [si'kjuə] 2 *adj* *v* защищенный, безопасный; надежный, гарантированный; защищать, обеспечивать защиту

keep files secure 2 сохранять файлы защищенными

security [si'kju(ə)riti] 2 *n* защита, обеспечение безопасности; (*pl*) средства защиты

data security 2 защита данных; сохранность данных, безопасность (надежность) хранения данных

self-contained [selfkən'teind] 3 *adj* автономный, самостоятельный, независимый; модульный; замкнутый

separate ['sep(ə)rit] 5 *adj* отдельный; ['sepəreit] *v* отделять, разделять

sequence ['si:kwəns] 8 *n* последовательность, порядок (следования)

server ['sə:və] 9 *n* сервер

remote [ri'məut] **server** 9 удаленный сервер

shade [ʃeid] 12 *n* *v* экран; уровень яркости цвета (на экране дисплея); экранировать; затемнять

share [ʃeə] 1 *v* разделять, совместно использовать

sheet [ʃi:t] 8 *n* лист; бланк; карта, схема, диаграмма

style sheet таблица стилей (*напр.* в текстовых процессах)

shift 4 *n* *v* сдвиг, смещение; смена регистра; (рабочая) смена; сдвигать, смещать

shortcut [ʃɔ:tkʌt] 12 *n* *adj* сокращенное именование; сокращение; клавишная комбинация быстрого вызова; укороченная клавиатурная команда; сокращенный; ускоренный

keyboard shortcut 12 экономия (времени) при пользовании клавиатурой (вместо мыши); сокращенный клавишный набор (нужной команды)

sign [sain] **on** 10 *v* предъявлять пароль (при входе в диалоговую систему)

sign-on 10 *n* предъявление пароля **similar** ['simələ] *adj* подобный, сходный, похожий

similarity [,simi'lærɪti] 6 *n* сходство, подобие

simulate ['simjuleit] 11 *v* моделировать; имитировать

simulation [,simju'leiʃn] 11 *n* моделирование; проведение модельных (имитационных) экспериментов

size [saiz] 6 *n* размер; объем (выборки); емкость (ЗУ)

font size 6 размер шрифта

slave [sleiv] 12 *n* подчиненный компонент системы (устройство, вычислительный процесс)

slide [slaid] 10 *v* плавно перемещать(ся); скользить

slot 4 *n* гнездо (*напр.* для разъема); прорезь; паз

smear [smiə] 4 *v* размазывать, пачкать; размываться

society [sə'saiəti] 9 *n* общество; объединение; организация

information society 9 информационное общество, общество с развитой информационной технологией

socket ['sɔ:kit] 4 *n* гнездо; розетка (гнездовая часть разъёмного соединения)

software ['sɒftweə] 1 *n* программное обеспечение

application software 1 прикладное программное обеспечение

desktop publishing software 6 программное обеспечение для настольных издательских систем

system software 1 системное программное обеспечение

solution [sə'lu:ʃ(ə)n] 2 *n* решение

solve [sɒlv] 2 *v* решать, разрешать

solve a problem 2 решить задачу (проблему)

sophisticated [sə'fɪtikeɪtɪd] 3 *adj* сложный, усложненный

source [sɔ:s] 7 *n* источник, основа; документ

data source 7 источник данных

speaker ['spi:kə] 3 *n* (компьютерная) колонка

specification [ˌspesɪfɪ'keɪʃ(ə)n] 7 *n* спецификация; определение; (*pl*) технические условия; технические требования

specify ['spesɪfaɪ] 7 *v* специфицировать; устанавливать; задавать; определять

split 1 *n v* дробление, разбиение, разделение, расщепление; дробить, разбивать, разделять, расщеплять

spread (spread) [spred] 10 *n v* пространство, протяжение; распространяться, простираться

spreadsheet ['spredʃi:t] 6 *n* крупноформатная (электронная) таблица

spreadsheet application 6 табличное приложение

standalone 3 *adj* автономный

standby ['stændbaɪ] 12 *n adj* резервное (запасное) оборудование; резерв; резервный, запасной

state [steɪt] 12 *n v* состояние; режим; формулировать, излагать, заявлять, констатировать

storage ['stɔ:ɪdʒ] 2 *n v* память, запоминание, хранение; хранилище; запоминать, хранить

removable storage 2 съемное (сменное) запоминающее устройство; сменная память, память на съемных носителях

store [stɔ:] 2 *n v* запоминающее устройство; ЗУ; хранилище; запоминать, хранить

stream [stri:m] 3 *n v* поток; слушать или смотреть на компьютере что-л., напрямую взятое из Интернета

audio ['ɔ:diəu] **stream** 9 поток аудиоданных, аудиопоток

digital ['dɪdʒɪt(ə)] **stream** 9 цифровой поток

video ['vɪdiəu] **stream** 9 поток видеоданных, видеопоток

strike [straɪk] 4 *v* ударять; нажимать (клавишу)

substitute ['sʌbstɪtju:t] 1 *n v* замена; заменять, замещать; подставлять

suit [sju:t] 6 *v* годиться, соответствовать, подходить; удовлетворять требованиям, устраивать

suite [swi:t] 6 *n* набор, комплект (*nanpr.* программ)

application suite 6 прикладной программный комплекс

superhighway ['s(j)u:pə,haɪwei] 9 *n* высокоскоростная магистраль

information superhighway 9 информационная супермагистраль (высокоскоростная магистраль для передачи информации)

supervise ['s(j)u:pəvaɪz] 2 *v* контролировать, руководить

supervisor 2 *n* инспектор, контролер

support [sə'pɔ:t] 2 *n v* поддержка, обеспечение; поддерживать, обеспечивать

software support 2 программная поддержка

technical support 2 техническая поддержка (пользователей)

swipe [swaɪp] **an icon** 3 провести пальцем иконку

switch 8 *n* в переключатель; коммутатор; выключатель; переключать; коммутировать

link-layer switch 8 переключатель канального уровня

packet switch 8 узел коммутации (коммутатор) пакетов (в сети), пакетный выключатель

toggle switch 7 *n* тумблер, (перекидной) переключатель

system ['sɪstɪm] 2 *n* система; установка, устройство

backup system 2 резервная (дублирующая) система; поддерживающая система

dedicated ['dedɪkeɪtɪd] **system** 9 специализированная система

end system 8 конечная система (система, обеспечивающая передачу через все семь уровней протоколов ISO/OSI и эквивалентная хосту в интернете)

entry-level system 2 базовая система, система базового уровня

operating system 2 операционная система; работающая система

T

table [teɪbl] 11 *n* таблица

tablet ['tæblɪt] 3 планшетный компьютер; планшет

tailor ['teɪlə] 12 *v* приспособливать, предназначать для определенной цели

tailored 12 *adj* специализированный специально приспособленный; заказной

task [tɑːsk] 3 *n* задача, задание

technique [tek'ni:k] 7 *n* способ, метод, методика; прием

telecommute [ˌtelɪkə'mju:t] 9 *v* работать дистанционно, присутствовать дистанционно; работать в режиме удаленного офиса с использованием компьютеров, телефонов, факсов и других средств связи с офисом работодателя для выполнения работы

telecommuter 9 *n* человек, работающий в режиме удаленного офиса

telework [ˌteli'wɜ:k] 9 *v* работать дистанционно, присутствовать дистанционно; работать в режиме удаленного офиса с использованием компьютеров, телефонов, факсов и других средств связи с офисом работодателя для выполнения работы

teleworker 9 *n* человек, работающий в режиме удаленного офиса

template ['templɪt] 6 *n* шаблон; образец; модель

tend 5 *v* иметь тенденцию, стремиться

term [tɜ:m] 7 *n* период, срок; семестр; термин; (*pl.*) условия

in terms of 7 с точки зрения

tier ['tɪə] 8 *n* ярус; ряд

data tier 8 ярус данных, информационный ярус

tilt 9 *v* наклонять

time [taɪm] 1 *n* время, период времени

response [rɪ'spɒns] **time** 12 время отклика, время ответа, время реакции системы

standby ['stændbaɪ] **time** 12 время нахождения в резерве; время ожидания ответа на вопрос

tool [tu:l] 2 *n* инструментальное средство, инструмент; (*pl.*) инструментарий

programming tools 2 средства программирования

touch [tʌtʃ] 3 *v* касаться, прикасаться

touchscreen / touch screen 3 *n* сенсорный экран (дисплей)

tower ['tauə] 3 *n* вертикальный корпус (компьютера); вертикальный блок

track [træk] 5 *n* дорожка; канал

keep track 5 отслеживать; следить

transaction [træn'zækʃ(ə)n] 2 *n* входное сообщение (приводящее к изменению файла); транзакция (групповая операция); деловая операция, сделка

transfer ['trænsfə:] 4 *n* передача; пересылка; перенос; [træns'fə:] *v* передавать; пересылать; переносить

data transfer 4 передача (пересылка) данных

transmission [trænz'miʃ(ə)n] 8 *n* передача; пропускание, прохождение (*напр.* сигнала)

transmission rate 8 скорость передачи

transparency [træns'pærənsi] 11 *n* прозрачность; прозрачный слайд

overhead [ˌəʊvə'hed] **transparency** 11 слайд для кодоскопа

traverse [trə'və:s] 8 *v* пересекать; перемещаться; проходить; обходить; проследивать

tube [tju:b] 4 *n* тубик (элемент струйного принтера); (электронно-лучевая) трубка

type ['taip] 4 *v* печатать (на пишущей машинке); набирать на клавиатуре

typeface ['taipfeis] 4 *n* гарнитура (начертание) шрифта

typewriter ['taip,raɪtə] 4 *n* печатающее устройство; пишущая машинка

U

ultimate ['ʌltɪmɪt] 8 *adj* крайний, последний, окончательный; предельный, максимальный

unambiguous [ˌʌnæm'bigjuəs] 7 *adj* точно выраженный, недвусмысленный

unit ['ju:nɪt] 3 *n* устройство, узел, блок

central processing unit (CPU) 3 центральный процессор/ЦП

system unit 3 системный блок

usage ['ju:sɪdʒ] 5 *n* применение, использование; используемость

USB (Universal Serial Bus) 4 универсальная последовательная шина, интерфейс USB (*ю-эс-би*)

use [ju:s] 5 *n* использование, назначение, применение, польза; [ju:z] *v* использовать, применять

be in use 5 быть в употреблении, использоваться

make use of 5 воспользоваться, использовать

user ['ju:zə] 5 *n* пользователь

end user конечный пользователь

Usenet 2 *n* сеть Usenet; сеть пользователей

utility [ju'tɪlɪti] 5 *n* (служебная) обслуживающая программа, утилита; полезность, эффективность

utilize ['ju:tɪlaɪz] 4 *v* использовать, употреблять, утилизировать

V

vendor ['vendə] 9 *n* поставщик, производитель, продавец

versatile ['və:sətaɪl] 11 *adj* универсальный, многоцелевой

viable ['vaɪəb(ə)l] 12 *adj* жизнеспособный

view [vju:] 6 *n v* вид, представление; мнение; точка зрения; смотреть; изучать; рассматривать

volatile ['vɒlətaɪl] 3 *adj* непостоянный, временный; энергозависимый,

не сохраняющий информацию при выключении электропитания

volume ['vɒlju:m] 4 *n* объем; громкость, уровень громкости

vulnerable ['vʌln(ə)rəb(ə)l] 8 *adj* чувствительный, уязвимый

W

wheel [wi:l] 3 *n* колесо, колесико

mouse wheel [wi:l] 3 колесико мыши

widespread ['waɪdspred] 10 *adj* широко распространенный

wire ['waɪə] 4 *n* провод; проволока

wireless ['waɪəlis] 4 *adj* беспроводной

wiretap ['waɪətæp] 10 *n v* подключение к линии; (перехват передаваемых сообщений); подключаться к линии (с целью перехвата передаваемых сообщений)

worth [wɜ:θ] 11 *adj* стоящий, имеющий стоимость; заслуживающий чего-л.

be worth (doing smth) 11 стоять, заслуживать

wrap [ræp] 6 *v* заключать в оболочку

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Учебное издание

Гарагуля Сергей Иванович

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ENGLISH FOR IT STUDENTS