# The methodical manual for students on specialty information technologies.

( Oliy o'quv yurtlarining mutaxasisligi chet tili bo'lmagan fakultetlari,informatika
yo'nalishi II – kurs talabalari uchun ingliz tili fanidan mustaqil ishlar uchun uslubiy
qo'llanma)

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Mazkur uslubiy qo'llanma pedagogika oliy o'quv yurtining mutaxassisligi chet tili bo'lmagan fakultetlari, informatika yo'nalishi II – kurs talabalari ingliz tili fanidan mustaqil ishlari uchun mo'ljallangan

## KIRISH

Ushbu uslubiy qo'llanma"Informatika o'qitish metodikasi" yo'nalishi 2-kurs talabalari uchun, ularning o'z sohalari bo'yicha terminlar va iboralarni o'rganishlariga hamda ularni kelgusida qo'llay olishlariga yordam beruvchi mashqlardan iborat. Qo'llanma matnlar va shu matnlarga oid bir qancha mashqlarni o'z ichiga oladi. Shuningdek bu mashqlar og'zaki nutq, yozma tarjima va ingliz tili grammatikasi mahoratlarini oshirish maqsadida auditoriyada va mustaqil ishlash uchun tuzilgan bo'lib,18 ta darsdan tashkil topgan. Har bir dars 2 soatga mo'ljallangan. Uslubiy qo'llanmada18ta matn bo'lib, bu matnlar hozirgi zamon kompyuter technologiyalariga oid dolzarb matnlardir. Bu matnlar va ulardan keyingi mashqlar talabalarning ushbu sohaga oid maxsus atamalarni yaxshi o'zlashtirishiga va tarjima mahoratini oshirishga yordam beradi. Matnlarga oid berilgan mashqlar talabalarning o'rganilgan matn bo'yicha ijodiy fikrlash qobiliyatini oshiradi va ularni o'z fikrlarini erkin ifodalashga o'rgatadi. Har bir darsga berilgan yangi so'zlarning muqobillari uslubiy qo'llanma bilan ishlashda matnlarni yanada yaxshiroq tushunish imkonini beradi. Har bir darsda berilgan og'zaki nutq uchun matnlar talabalarning erkin fikrlash va gapirish qobiliyatini, tarjima qilish mahoratini, o'qish texnikasini oshiradi, ularning bilimini mustahkamlaydi.

# LESSON 1

## COMPUTERS

Computers are now essential in many areas of life - modern banking, information technology and many others. However, this is not true for education.

There are some subjects which may be better taught using computers. Elementary mathematics, elementary language learning, any subject that requires a student to memorize basic facts through repetition is good to computer learning. The computer can be programmed to provide an endless number of simple questions, and as the student answers these questions the facts are learned.

However, in the learning and practice of more complex ideas, the computer is not adequate. A computer can evaluate an answer as right or wrong, but it cannot determine why. It cannot find out why a student is making mistakes, and then explain important concepts in a different way so the student will understand. Task variables for a computer to deal with successfully.

Thus, while computers may be useful for practicing simple skills, they are not an essential feature of modern education. Until further developments in computers are made, the human teacher will remain indispensable.

## ASSIGNMENT TO LESSON 1

**I. Read and translate the text.**

**II. Answer the following questions:**

1. Which areas of life are computers essential in? 2. What are the subjects which can be taught with the help of computers? 3. What can't a computer determine and why?

**III. Write out sentences with the Passive Voice and translate them.**
**IV. Make all types of questions to the following sentence:**
There are some subjects which may be better taught using computers.

**V. Translate from English into Uzbek.**
1. information technology. 2. elementary language learning. 3. to provide an endless number of simple questions. 4. more complex ideas. 5. to explain important concepts. 6. to practice simple skills.

**VI. Match up:**

simple..............................ideas

modern..............................an answer

information.........................skills

elementary..........................learning

computer............................concepts

complex.............................technology

to evaluate.........................banking

important...........................mathematics

**VII. Fill in the blanks:**

*indispensable, variables, important concepts, a computer, evaluate, computer learning*

1. If you want to memorize basic facts through repetition you can refer to ... .
2. A computer can only ... whether the answer is right or wrong.
3. . can't find out why a student makes mistakes.
4. A computer can't explain . so that the student will understand them.
5. As there are too many ... the computer can't deal with them successfully.
6. The computers are ... in practicing simple skills.

**IX. Give summary of the LESSON**

## LESSON 2

### IS THERE AN END TO THE COMPUTER RACE?

Todays the word «electronics» is in general usage. Millions of people have electron watches. There are a lot of various radio and TV sets, video cassette recorders and CD players in our houses. In factories and plants we are surrounded with electronically controlled machines and instruments, we are carried by airplanes, ships, trains and cars with built-in electronic devices, and satellites circle the globe. In other words, we are living in an electronic world.

And the center of this world is a tiny silicon plate[1] of a few square millimetres, an integrated circuit[2], or a chip[3], as it is more commonly known. The integrated circuit is undoubtedly one of the most sophisticated inventions of man, science and technology. It is in the heart of every electronic device and the more cassette recorders, TV sets and computers we need, the more integrated circuits are required.

When we speak about a further development of computers we mean not only quantity, but also high technology and high speed. As the operation of an integrated circuit depends on microscopic «components», the purity of all materials and the cleanness at the plant they are produced at must be of the highest quality. A continuous search is going on in laboratories throughout the world for more perfect, reliable and high speed electronic circuits.

In the past it took scientists and researchers a whole lifetime to make a few thousand calculations, whereas for a modern computer this task is a matter of a few seconds. At present computers capable of performing billions of operations a second are required. Supercomputers are different from ordinary computers. The ordinary computer does the computations operation by operation, while the supercomputer operates like a brain: all operations are being done simultaneously. In the next few years engineers will complete the work on computers of above 2 billion operations a second. It will take a few more years to produce a 10-billion operations computer. The fifth-generation computers performing 100 billion operations a second will become available in the near future. Is there an end to this race?

According to some researchers, we are close to what can be regarded as a true physical limit. But other specialists think that photons will make the operation a thousand times faster. This means that in the future it will be possible to expect the appearance of photon computers and that computations will be done by means of light. Light has several advantages over electronics: light beams are faster, travel in parallel lines and can pass through one another without interference. Already, the optical equivalent of a transistor has been produced, and intensive research on optical-electronic computers is being carried out in a number of countries around

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the world. In a few decades a new age of light may replace the still youthful electronic age. The race is going on.

### ASSIGNMENT TO LESSON 2.

**I. Read and translate the text.**

**II. Answer the questions to the above LESSON**

1. What is this LESSON about? 2. What new things appeared in people's everyday life after World War II? 3. What is at the center of all these things? 4. What applications of computers do you know? 5. Where else may computers be used? 6. How does an ordinary computer (a supercomputer) operate? 7. What is the speed of a new supercomputer? 8. What is the task of engineers in the field of computer development? 9. What types of computers do you know? 10. What are the prospects in the development of computers?

**III. Make all types of questions to the following sentence:**
the integrated circuit is undoubtedly one of the most sophisticated inventions of man, science and technology.

**IV. Match up:**

General............................speed
electronically controlled...... beams
integrated............ computers
high............... search
continuous.......... usage
photon............. circuit
light............. machines

**V. Put the words in brackets in the correct order:**

1. (but/we/mean/also/computers/we/quantity/and/high speed/when/a further development of/high technology/speak about/not only).
2. (electronic circuits/and/in laboratories/reliable/for more perfect/throughout the world/is going on/high speed/a continuous search).

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3. (operates/the ordinary computer/all/operation by operation/are being done/the supercomputer/does/simultaneously/the computations/operations/ while/like a brain).

## VI. Fill in the blanks:

true physical limit, high technology and high speed, a continuous search, computations, the integrated circuit

1. ... is in the heart of every electronic device we use at present.
2. When speaking about further development of computers we first of all speak about ..
3. ... is going on in laboratories to work out more perfect, reliable and high speed electronic circuits.
4. The ordinary computer does the ... operation by operation.
5. Some researchers think that with the invention of the fifth generation computers we approach what is called ...

# LESSON 3
# COMPUTER LITERACY

Informed citizens of our information-dependent society should be computer-literate, which means that they should be able to use computers as everyday problem-solving devices. They should be aware of the potential of computers to influence the quality of life.

There was a time when only priviliged people had an opportunity to learn the basics, called the three R's: reading, writing, and arithmetic. Now, as we are quickly becoming an information-becoming society, it is time to restate this right as the right to learn reading, writing and *computing*. There is little doubt that computers and their many applications are among the most significant technical achievements of the century. They bring with them both economic and social changes. "Computing" is a concept that embraces not only the old third R, arithmetic, but also a new idea — computer literacy.

In an information society a person who is computer-literate need not be an expert on the design of computers. He needn't even know much about how to prepare *programs* which are the instructions that direct the operations of computers. All of us are already on the way to becoming computer-literate. Just think of your everyday life. If you receive a subscription magazine in the post-office, it i probably addressed to you by a computer. If you buy something with a bank credit card or pay a bill by check, computers help you process the information. When you check out at the counter of your store, a computer assists the checkout clerk and the store manager. When you visit your doctor, your schedules and bills and special services, such as laboratory tests, are prepared by

computer. Many actions that you have taken or observed have much in common. Each relates to some aspect of a data processing system.

## ASSIGNMENT TO LESSON 3.

### I. Read and translate the text.

### II. Answer the questions to the above text.
1. What does "a computer-literate person" mean? 2. Are you aware of the potential of computers to influence your life? 3. What do the people mean by "the basics"? 4. What is the role of computers in our society? 5. What is "computing"? 6. What is a program? 7. Prove that we all are on the way to becoming computer-literate. 8. Give examples of using computers in everyday life.

### III. Read and translate.
An information-dependent society; a computer-literate citizen; an everyday problem-solving device; to be aware; to influence the quality of life; to have an opportunity; to learn the basics; to learn computing; the most significant technical achievements; to embrace computer literacy; to prepare programs; to direct the operations of a computer; to be on the way of becoming computer-literate; to process information; to have much in common; a data processing system.

### IV. Give the three forms of the following verbs.
To be; to have; to mean; to learn; to become; to bring; to know; to think; to buy; to pay; to take; to do; to begin; to give; to make; to keep; to get; to read; to show.

### V. Make them Past Simple.
1. Many people have an opportunity to use computers.
2. There is no doubt that computers solve problems very quickly.
3. Instructions direct the operation of a computer.
4. Computers bring with them both economic and social changes.
5. Computing embraces not only arithmetics, but also computer literacy.
6. It is well known that computers prepare laboratory tests.
7. Those persons are computer literate and think of buying a new computer.
8. They receive a subscription magazine once a month.
9. My mother is ill and visits her doctor every other day.
10. Experts know much about how to prepare programs.