Lesson 1 — 2

1. Translate the vocabulary:

| to link   | bulletin board |
| communication | query |
| rapid     | expensive     |
| reliable  | to perform    |
| distinction | to parse |
| terminal  | to reduce     |
| access    | to improve    |
| to transfer | fibre optics |
| to provide | protocol      |

2. Read the text

**Computer Networks**

Computer networks link computers by communication lines and software protocols, allowing data to be exchanged rapidly and reliably. Traditionally, networks have been split between wide area networks (WANs) and local area networks (LANs). A WAN is a network connected over long-distance telephone lines, and a LAN is a localized network usually in one building close together. The distinction, however, is becoming blurred. It is now possible connect up LANs remotely over telephone links so that they look as though they are a single LAN.

Originally, networks were used to provide terminal access to another computer and to transfer files between computers. Today, networks carry e-mail, provide access to public databases and bulletin boards, and are beginning to be used for distributed systems. Networks also allow users in one locality to share expensive resources, such as printers and disk-systems.

Distributed computer systems are built using networked computers that co-operate to perform tasks. In this environment each part of the networked system does what it is best at. The high-quality bit-mapped graphics screen of a personal computer or workstation provides a good user interface. The mainframe, on the other hand, can handle large numbers of queries and return the results to the users.

In a distributed environment, a user might use his PC to make a query against a central database. The PC passes the query, written in a special language (e.g. Structured Query Language – SQL), to the mainframe, which then parses the query, returning to the user’s PC only the specific information requested, network traffic is reduced. If the whole file was transmitted, the PC would then have to perform the query itself, reducing the efficiency of both network and PC.

In the 1980s, at least 100,000 LANs were set up in laboratories and offices around the world. During the early part of this decade, synchronous orbit satellites lowered the price of long-distance telephone calls, enabling computer data and television signals to be distributed more cheaply around the world. Since then, fibre-optic cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals.

The impact of fibre optics will be considerably to reduce the price of network access. Global communication and computer networks will become more and more a part of professional and personal lives as the price of microcomputers and network access drops. At the
same time, distributed computer networks should improve our work environments and technical abilities.

3. Find the answers to the questions in the text.

1. What is the way computer networks link computers?
2. What network
   a. extends outside a building or small area?
   b. is contained in a relatively small area?
3. Name some of the ways in which networks are currently used.
4. When does a PC have to perform a query against a central database itself?
5. What is the impact of fibre optics?

4. Match these words and phrases with their definitions.

   1. protocol
   2. bulletin board
   3. user interface
   4. make a query
   5. parse
   6. synchronous

   a. analyze the syntax of a string of input symbols
   b. teleconferencing system allowing users to read messages left by other users
   c. agreement governing the procedures used to exchange information
   d. means of communication between a human user and a computer system
   e. taking place at exactly the same time as something else.
   f. request a search

5. Using the line reference given, look back in the text and find the words that have similar meaning to:

   1. unclear (lines 1-7)
   2. place (lines 8-12)
   3. carry out (lines 19-24)
   4. cost (lines 25-30)
   5. world-wide (lines 31-35)

6. Now look back in the text and find the words that have an opposite meaning to:
1. distance (lines 1-7)
2. conflict (verb, lines 8-12)
3. preventing (lines 19-24)
4. tiny (lines 25-30)
5. increase (lines 31-35)

7. Mark the following as True or False:

1. A computer network is a system of computer devices interconnected so that information and resources can be shared by a large number of users.
2. The distinction between WANs and LANs is great.
3. For long-distance communications LANs are usually connected into a WAN.
4. Mainframes process enormous amounts of data.
5. Network traffic is enlarged after a mainframe parses a query and returns the data asked to a PC.

8. Translate the following sentences from English into Russian. Mind grammar:

1. Modern networks, allowing people to work together no matter where they are, are widely spread.
2. The Internet is the largest information network in the world, linking almost every country on the planet.
3. Fibre-optics technology appears to be the most effective way to link computers, enabling very rapid and reliable transmitting of vast amounts of data.
4. The new technologies reduce the price of network access, making global networks more and more parts of our professional and personal lives.
5. There are several ways of installing a LAN, each having it’s own advantages.
6. In the next century it will be very difficult to find a computer not connected to some network.

9. Translate the following sentences from Russian into English. Mind grammar:

1. Локальной сетью (LAN) называется сеть, расположенная на сравнительно небольшой территории.
2. Многие крупные сети, являющиеся объединением небольших локальных сетей и отдельных пользователей, называются глобальными (WAN).
3. Пользователь компьютера, работая в сети, может предоставить другим пользователям права доступа к своим папкам, принтеру и другим периферийным устройствам.

4. Основное назначение сети – совместное использование ресурсов и обеспечение связи между компьютерами, расположенными в офисе и за его пределами.

5. Персональные компьютеры, объединенные в сети, позволяют десяткам и сотням пользователей легко обмениваться информацией и одновременно получать доступ к общим базам данных.

6. Услуги электронной почты, будучи довольно недорогими, позволяют пользователям компьютеров с помощью обычной телефонной сети посылать текстовые сообщения и различные данные в другие города и страны и получать информацию из крупных баз данных.