Exercise 1

*Ответьте на вопросы:*

1. Are many industries use [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) technology in their production process and to what extend this technology is used?

In communications, and especially in the telephone industry, dialing, transmitting, and invoicing are automatic. Railways are also controlled by automatic signaling devices that have sensors that detect cars passing through a certain point. Not all industries require the same degree of automation. Agriculture, sales, and some services are difficult to automate.

1. What operations are automated in communications and telephone industry?

Dialing, transferring, and invoicing are performed automatically.

1. By means of what automatic signaling devices railroads are controlled?

Railways are also controlled by automatic signaling devices that have sensors that detect cars passing through a specific point.

1. What industries require less degree of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187)?

Agriculture, sales and some services.

1. Can we state that the concept of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) is developing rapidly?

Yes, because the application of automation methods varies both within an enterprise or industry, and between industries

1. How can you explain the continuous-flow method of production, and in what fields of industry this method is used?

For example, in the oil and chemical industry, due to the nature of the raw materials used, a continuous production method has been developed. At a refinery, crude oil is delivered to a single point and flows continuously through pipes in cracking, distillation, and reaction devices as it is processed into products such as gasoline and fuel oil.

1. Can valves, heaters and similar equipment be operated automatically? If yes, how?

Yes, an Array of automatic control devices controlled by microprocessors and coordinated by a Central computer is used to control valves, heaters, and other equipment, thereby regulating both flow and reaction rate.

1. How [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) is used in certain stages of steel industry?

On the other hand, in the steel industry, the production of beverages and canned goods, some products are produced in batches. For example, a steel furnace is loaded (loaded with ingredients), brought to a boil, and a batch of steel ingots is produced. At this stage, very little automation is visible. These ingots, however, can then be automatically processed into sheet or structural forms by squeezing through a series of rollers until the desired shape is reached

1. How do you understand step-by-step manufacture and assembly?

The automobile and other consumer product industries use the mass production techniques of step-by-step manufacture and assembly. This technique approximates the continuous-flow concept but involves transfer machines; thus, from the point of view of the auto industry, transfer machines are essential to the definition of automation.

1. What is the main principle of the continuous-flow concept in industry?

The automobile and other consumer product industries use the mass production techniques of step-by-step manufacture and assembly. This technique approximates the continuous-flow concept but involves transfer machines; thus, from the point of view of the auto industry, transfer machines are essential to the definition of automation.

1. What industries use automated machines in all or part of their manufacturing processes?

Each industry has its own automation concept that meets its specific production needs. More examples can be found at almost every stage of Commerce. The widespread use of automation and its impact on everyday life gives rise to concerns expressed by many about the impact of automation on society and the individual

1. Do you think that each industry has a concept of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) that fits its particular production needs? Give examples of full automated and semi-automated productions.

As a result, each industry has a concept of automation that fits its particular production needs.

1. Can you give examples of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) technologies used in commerce?

In communications, railroads, doctors may consult a computer, in the oil and chemical industries, canned food industries, in the automobile and other consumer product industries.

1. Do you think that the widespread use of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) influences on individual’s and society’s daily life?

It definitely does. It has positive and negative sides.

1. Does [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) provide the basis for the concern of society and the individual?

Machines, like humans, can make mistakes. It is impossible to say specifically that machines can provide all the benefits for man, just as man himself can.

**Exercise 2**

*Заполните пропуски недостающими по смыслу словами, используя текст:*

1. Railroads too are controlled by automatic signaling devices.
2. The agriculture industry may become more mechanized, especially in the processing and packaging of foods.
3. In beverage and canned food industries some of the products are produced in batches.
4. When a steel furnace is charged and brought up to heat a very little automation is needed.
5. The ingots are processed automatically into sheet or structural shapes.
6. The automobile and other consumer product industries use the mass production techniques of step-by-step manufacture and assembly.
7. Most of the modern industries use automated machines in all or parts of their manufacturing processes.
8. Each industry has a concept of automation that fits its particular production needs.
9. More examples of automation can be found in almost every phase of commerce.
10. The widespread use of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) and its Influence on daily life provides the  concern expressed by many about the influence of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) on society and the individual.

**Exercise 3**

*Соответствуют ли данные предложения содержанию текста:*

1. All industries are highly automated or use [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) technology in some part of their operation. True
2. In communications and especially in the telephone industry, dialing, transmission, and billing are all done manually. False
3. Railroads are controlled by automatic signaling devices. True
4. Agriculture, sales, and some service industries are easy to automate. False
5. Doctors consult a computer to assist in diagnosis and computer also make the final decision and prescribe therapy. False
6. The concept of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) is growing rapidly. True
7. In petrochemical industry an array of automatic-control devices are used to control valves, heaters, and other equipment. True
8. The [automobile industry](https://lms.kgeu.ru/mod/page/view.php?id=51537) uses the mass production techniques of step-by-step manufacture and assembly. True
9. In auto industry the volume of power consumed is essential to the definition of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187). False
10. The widespread use of [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) doesn’t influence our daily life. False

**Exercise 4**

*Переведите на русский язык следующие предложения:*

1. Mechanization is often used to refer to the simple replacement of human labor by machines.

Механизация часто используется для обозначения простой замены человеческого труда машинами

1. [Automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) generally implies the integration of machines into a self-governing system.

Автоматизация обычно подразумевает интеграцию машин в самоуправляемую систему.

1. [Automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) has revolutionized those areas in which it has been introduced.

Автоматизация произвела революцию в тех областях, в которых она была внедрена.

1. There is scarcely an aspect of modern life that has been unaffected by [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187).

Вряд ли есть аспект современной жизни, который не был бы затронут автоматизацией.

1. The term [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) was coined in the [automobile industry](https://lms.kgeu.ru/mod/page/view.php?id=51537) about 1946 to describe the increased use of automatic devices and controls in mechanized production lines.

Термин «автоматизация» был введен в автомобильной промышленности около 1946 года для описания более широкого использования автоматических устройств и средств управления в механизированных производственных линиях.

1. The origin of the word is attributed to D.S. Harder, an engineering manager at the Ford Motor Company.

Происхождение слова связано с Д.С. Хардером, инженером-менеджером в Ford Motor Company.

1. In general usage, [automation](https://lms.kgeu.ru/mod/page/view.php?id=50187) can be defined as a technology concerned with performing a process by means of programmed commands combined with automatic [feedback](https://lms.kgeu.ru/mod/page/view.php?id=50190) control to ensure proper execution of the instructions.

В общем случае автоматизация может быть определена как технология, связанная с выполнением процесса с помощью запрограммированных команд в сочетании с автоматическим контролем обратной связи для обеспечения надлежащего выполнения инструкций.

1. The automatic system is capable of operating without human intervention.

Автоматическая система способна работать без вмешательства человека.

1. Advanced systems represent a level of capability and performance that surpass in many ways the abilities of humans to accomplish the same activities.

Усовершенствованные системы представляют собой уровень возможностей и производительности, которые во многих отношениях превосходят способности людей выполнять те же действия.