**The Modern age of computers**

It was in the period after World War ll that major developments in computer technology and industry took place. Dr.John von Neumann developed the stored program concept near the end of the war. This concept revolutionized the computer industry because now the computer was controlled by a program kept inside the machine instead of being controlled manually with the changing of wires. Maurice V. Wilkes, a student at the University of Pennsylvania during the time von Neumann, Eckert and Mauchly developed their work, took the idea of the stored program computer, the EDAC. Two years later, in 1951, Mauchly and Eckert completed another stored program computer, the EDVAC. They formed their own company, the Remington-Rand Corporation, and developed the first commercial computer, the UNIVAC, which was delivered to the U.S. Census Bureau. However, by 1956, IBM, had replaced their company as the leading computer manufacturer.

These early computers are known as the first generation of computers. They used vacuum tubes to control their operations. These tubes were large, and the computer needed lots of them. Consequently, these computers occupied a large area and consumed a lot of power. They generated a great deal of heat and needed very good air conditioning. Furthermore, they were too slow, and their memory capacity was small. On top of these problems, they broke down frequently and required constant maintenance and repair.

The second generation of computers began in 1947 at Bell Laboratories. J.Bardeen, W.H.Brattain, and W.Shockley solved the problems of vacuum tubes by developing the transistor, which won them the Nobel Prize. These computers were smaller, faster, and more reliable than the first generation's. Besides, they cost less power, and generated less heat. These computers were programmed with high-level programming languages like FORTRAN.

Around 1965, the third generation of computers appeared on the market. Thus, transistors were replaced by integrated circuits. These tiny integrated were smaller and more dependable than the second generation´s transistors. Microchips (tiny boards that contain these circuits) were less than 1/8 of an inch square. Third generation computers were smaller, faster, more powerful, and more reliable than the previous generations´. In addition to their advantages, they were also less expensive.

Microminiaturization greatly reduced the size of the integrated circuits of fourth generation computers. Thousands of tiny circuits now fit onto a single chip, a rectangular or square piece of silicon, usually from 1/10 to ¼ inch. Several layers of an integrated circuit are etched or imprinted upon this silicon piece, the chip. These computers can complete approximately 1,000,000 instructions per second and are 50 times faster than third generation computers.

Based on these facts, we can predict that today´s computers will soon be obsolete. Japanese and American scientists are working on the “fifth generation project”. Not only will these “supercomputers” be faster, cheaper, more powerful and more reliable than the one we use today, but it is also expected that they will be able to reason and communicate with humans in natural language. Although the prediction that these computers would be ready before the year 2000 was not fulfilled, advances in computer technology proceed so quickly that very soon we will be considering our present state-of-the-art technology totally outdated.

*(Adaptado de TORRES, 2001)*

1. **Qual o principal assunto tratado no texto?**

The history and evolution of computers during the course of the ages

1. **Encontre 10 palavras cognatas**

**Cognatas:** period, computer, technology, industry, program, concept, revolutionized, controlled, student, during.

1. **Informe as linhas em que se encontram as seguintes informações:**
2. A microminiaturização reduziu consideravelmente o tamanho dos circuitos integrados dos computadores de quarta geração.

Line: 27-28

1. Dois anos mais tarde, em 1951, Mauchly e Eckert completaram outro computador de programa armazenado, o EDVAC.

Line:6-7

1. Esses tubos eram grandes, e o computador precisava de muitos deles.

Line:12

1. Os computadores de terceira geração eram menores, mais rápidos, mais poderosos e mais confiáveis do que as gerações anteriores".

Line:25-26

1. Estes computadores podem realizar aproximadamente 1.000.000 de instruções por segundo e são 50 vezes mais rápidos do que os computadores de terceira geração.

Line:30-31

1. Além desses problemas, eles estragavam frequentemente e precisavam de manutenção e reparação constantes.

Line:15-16

1. **Qual o tempo verbal predominante no texto? Por que?**
2. **Encontre cinco verbos regulares no Simple Past.**
3. **Encontre três verbos irregulares no Simple Past.**