since the laboratory's opening in 1951. Over the next ten years, the ASCI program will sponsor the development and delivery of three more supercomputers to the Lawrence Livermore, Los Alamos, and Sandia national laboratories that will reach speeds of 10,30, and finally 100 teraflops. Though they will be made available for other applications, the primary use of this tremendous amount of computing power will be to maintain the safety and reliability of the U.S.'s remaining stockpile of nuclear weapons. Without the nuclear testing, either above or below ground, that was used for research in the past, extremely fine-grained numerical simulation is required to analyze and predict potential problems arising from long-term storage of nuclear devices.

If 100-teraflops computing seems to be a lofty goal, it should be noted that there is at least one petaflops (quadrillions of floating point operations per second) project in progress. The University of Tokyo's GRAPE: TNG project aims to have a petaflops-class computer by the 2000. Also known as the GRAPE-5, it would have 10,000-20,000 higher-powered processors and cost around 10 million dollars. More interesting, the new GRAPE system, though still special-purpose hardware, will be less specialized than before and will be able to perform a variety of astrophysical and cosmological simulations.

mission – місія, задача; покликання; доручення
predecessor – попередник
clout – поштовх
mighty – масивний, могутній
to relinquish – відмовлятись, поступатись
arsenide – *хім.* арсенід
to shrink (*past* shrank) – стискувати, зменшувати
advent – прихід; поява
undaunted– безстрашний
to sustain – зазнати
curiously – цікаво
stockpile – *v.* накопичувати; *n.* накопичення
lofty – 1) дуже високий; 2) статний, величний

Exercise 66. *Give Ukrainian equivalents for:*

much of the early history; in particular; fully transistorized supercomputers; to put on hold; to work out a deal; to part ways; to go ahead; per-node performance; to incorporate over 9,000 processors; to file for bankruptcy; press release; an estimated pick performance; fine-grained numerical simulation.

Exercise 67. *Give English equivalents for:*

більша частина ранньої історії; зокрема, особливо; повністю транзисторні суперкомп'ютери; впроваджувати; підготувати договір; розлучитись, розійтись; рухатись вперед; об'єднувати понад 9,000 процесорів; бути на межі банкротства; прес-реліз (інформаційна листівка); максимальні проектні технічні характеристики; числове моделювання з високою розділовою здатністю.

Exercise 68. *Answer the questions to the text.*

1. What was Cray's main mission throughout his life? Was or wasn't it fulfilled?
2. What events caused the financial problems in Cray's company in 1995?
3. What advanced technologies were invented by Seymour Cray to be used by the supercomputer industry?
4. Were there other companies to compete with Cray's ones? Name some.
5. What company announced about the 1 teraflops barrier breaking? When did it occur?
6. What do you know about the "ultra" computer from the Intel press release?
7. What will the ASCI program sponsor over next ten years?

Exercise 69. *Comment on the following statements.*

1. Much of the history of the supercomputer is connected with Seymour Cray and his companies.