

Asimov's First Law: Japan Sets Rules for Robots

Japan's Ministry of Economy, Trade and Industry is working on a new set of safety guidelines for next-generation robots. This set of regulations would constitute a first attempt at a formal version of the first of Asimov's science-fictional Laws of Robotics, or at least the portion that states that humans shall not be harmed by robots.

- 5 The first law of robotics, as set forth in 1940 by writer Isaac Asimov, states:

A robot may not injure a human being, or, through inaction, allow a human being to come to harm.

- Japan's ministry guidelines will require manufacturers to install a sufficient number of sensors to keep robots from running into people. Lighter or softer materials will be preferred, to further prevent injury.

Emergency shut-off buttons will also be required. Science fiction heroes in stories and movies have spent a great amount of time trying to find the shut-off button for various out-of-control machines, so I hope that these buttons will be placed for easy access by concerned humans.

- 15 People in Japan are particularly concerned about this problem, due to the accelerating efforts to create robots that will address the coming labour shortage in Japan's elderly care industry.

http://www.livescience.com/technology/060526_robot_rules.html (adapted and abridged)

READING COMPREHENSION

A. Read the text very carefully and then answer true (T) or false (F). Correct the false statements.

1. The first law of robotics says that a robot must harm a human being.
2. When building robots, manufacturers will have to install sensors to prevent robots from running into people.
3. Robots will need emergency shut-off buttons.
4. Japan will not face the problem of having labour shortage in the elderly care industry.

B. Find words in the text that mean the same as the following:

1. old (line 1)
2. old-fashioned (line 2)
3. informal (line 3)
4. last (line 5)
5. heavier (line 9)

C. Complete the following sentences with ideas from the text.

1. Japan's Ministry of Economy, Trade and Industry is working on a set of guidelines for...
2. Asimov wrote three science-fictional...
3. The first Law of Robotics was written in...
4. Manufacturers will prefer... materials to build up robots.

D. Choose the best word for each sentence.

1. People in Japan are *worried* / *happy* about many problems.
2. There are efforts to create robots that will be *used* / *ignored* in Japan's elderly care industry.
3. A robot can not *permit* / *observe* a human being to be harmed.
4. Machines will have shut-off buttons so they won't become *smart* / *dangerous*.

GRAMMAR

A. Choose the correct word to complete the following sentences.

1. Manufacturers haven't got _____ (any / some) robots available for now.
2. There are _____ (many / much) old people concerned about their quality of life.
3. Our society doesn't have _____ (some / enough) resources for old and disabled people.
4. There is not _____ (plenty of / much) money left to invest in useless projects.

B. Use the past perfect of the verbs in brackets to fill in the gaps.

1. Science fiction heroes in stories and movies _____ (spend) lots of time searching for a shut-off button before machines became as sophisticated as they are now.
2. Before scientists developed new strategies, they _____ (work) very hard.
3. When the manufacturers arrived at the meeting, it _____ (start).
4. They _____ (do) everything they were told to.

C. Fill in the gaps with the future (will) of the verbs in brackets.

1. Japan's Ministry of Economy, Trade and Industry _____ (work) on a new set of safety guidelines for next-generation robots.
2. This set of regulations _____ (constitute) a first attempt at a formal version of the first of Asimov's science-fictional Laws of Robotics.
3. Japan's ministry guidelines _____ (require) manufacturers to install a sufficient number of sensors to keep robots from running into people.
4. Emergency shut-off buttons _____ (be) needed.

D. Fill in the gaps by using the correct verb tense. These are Conditional sentences Types 1 and 2.

1. If you _____ (arrive) early, we will watch the science fiction film together.
2. If robots were clever, they _____ (rule) the world.
3. They will bring us the machines, if we _____ (ask) them.
4. If humans had more resources, they _____ (find) the cure for all the diseases on earth.

WRITING

A. Isaac Asimov wrote the three Laws of Robotics. Do you think we need robots in our daily lives? Why (not)? Write about 100 words about this matter.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

Reading Comprehension

- A.** $4 \times 5 = 20$
B. $5 \times 4 = 20$
C. $4 \times 5 = 20$
D. $4 \times 5 = 20$

Grammar

- A.** $5 \times 4 = 20$
B. $4 \times 5 = 20$
C. $4 \times 5 = 20$
D. $4 \times 5 = 20$

Writing

40

Total

200