

Exam Style Questions

**A school IT technician needs to work on some files at home and also to assess new software for use in the school.
State three different storage devices that the technician could use and describe what each device would be used for. [6]**

Explain how a system used in a supermarket can control the quantity of products in stock so that the chance of running out of anything is minimised. [6]

A gym stores details of their members. These details are stored in a database on a network, as it's part of a chain and members can go to any gym in the chain. Some people are worried about the storage of their details. Describe three methods that can be used to protect the data about people held in the gym's database. [6]

The advice given to students considering AS Computer Science and AS Physics is:

- You must have at least a C in English to take either Computer Science or Physics.
- If you have at least a B in Maths, you may consider taking both.
- Otherwise, if you have at least a C in a Science you may consider Physics and if you don't, you may consider Computer Science.

Draw a flow diagram for choosing the correct advice about Computer Science and Physics. [6]

Use similar notation to the flowchart shown at this link:

http://www.teach-ict.com/gcse_computing/ocr/216_programming/algorithms/miniweb/pg7.htm

Resistors are small components of electronic circuits. The value of a resistor is printed on the resistor using colour bands. Three bands on the left show the resistance. A gold or silver band on the right shows the tolerance, as in Fig. 1.




Fig. 1

Mr Johnson teaches Electronics to year 7. He is worried that pupils sometimes use a resistor with the wrong value. He writes a program that pupils can use to check the value of a resistor.

(a) Mr Johnson has designed the following interface for his program.

Resistor checker



Colours on the left

Red

Violet

Black

Colour on the right

Gold

Calculate

Resistance = 27 Ω

Tolerance = 5%

Describe **three** ways that the design of this interface helps to make the program effective.

[6]

[illegible]

Pre-A Level Assessment

Please complete the following assessment online. This is something that we have been doing with our students for the past 6 years and it's really helped us to identify where students logical strengths and weaknesses lie – the idea is that you do it with no more instructions than those that are there and we can see how your logic works.

You may need to have some paper with you to make notes on and do workings.

Please complete the test on your own, with no help.

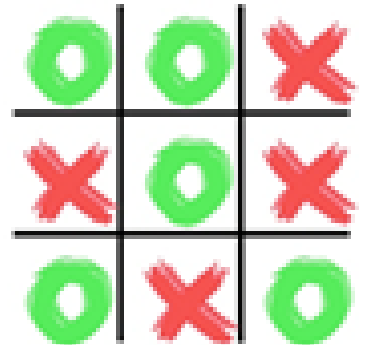
<http://kwiksurveys.com/s.asp?sid=lh2isl2t6p305ke210646>

Programming-based Task

Using only the information below, can you devise a set of instructions that can play noughts and crosses without losing a game - you don't always have to win, a draw is ok.

The rules this language follows are:

1. Work down the list of instructions/ statements until one that can be legally followed is found (e.g. if it can always use the 1st statement it will).
2. Each statement can **only be used once** in the program. The **structures** can be used as often as required.
3. You will always go first.



Statements:

Go for 3 in a row
 Block 3 in a row
 Go in opposite corner
 Go in free corner
 Go in free space
 Go in centre
 Go top centre
 Go centre edge
 Go bottom centre
 Go on a diagonal

Structures:

IF condition THEN statement
ELSE statement

IF condition THEN statement
ELSE IF statement
ELSE statement

e.g.

IF there are 2 Xs and a space in a line
THEN Go in free space
ELSE Go in a free corner