Topic: 1.3.7 High- and low-level languages

May/June 2006 P1

a) Give two benefits of using a high-level language for writing programs. [2]
(b) State one type of program that would be written in a low-level language rather than ahigh-level language and give a reason why. [2]

Oct/Nov 2007 P1

Give two differences between high level languages and low level languages.

Oct/Nov 2009 P1

Give two advantages of using high level languages when writing new computer software than using low level languages

May/June 2010 P11

10 (a) Compilers and interpreters translate high-level languages. Give two differences between compilers and interpreters.
(b) Programs can be written using high-level or low-level languages.
Give one advantage of using each method.
High-level language advantage
Low-level language advantage

May/June 2011 P12

```
1 h = 0
2 c = 0
3 REPEAT
4 READ x
5 IF x > h THEN x = h
6 c = c + 1
7 PRINT h
8 UNTIL c < 20
```

The above code is an example of a high-level language.
Give TWO features of a high-level language. [2]
(c) The code is to be interpreted rather than compiled.
Give ONE difference between these two methods. [1]

Topic: 1.3.7 High- and low-level languages

May/June 2012 P12

Look at these two pieces of code:

A:

```
        CLC
        LDX #0
loop:   LDA A,X
        ADC B,X
        STA C,X
        INX
        CPX #16
        BNE loop
```

B:

```
FOR Loop = 1 TO 4
    INPUT Number1, Number2
    Sum = Number1 + Number2
    PRINT Sum
NEXT
```

(a) Which of these pieces of code is written in a high-level language? [1]

(b) Give one benefit of writing code in a high-level language. [1]

(c) Give one benefit of writing code in a low-level language. [1]

(d) High-level languages can be compiled or interpreted.
Give two differences between a compiler and an interpreter.

May/June 2015 P11 (2210)

10 Five statements about interpreters and compilers are shown in the table below.
Study each statement.
Tick (✓) to show whether the statement refers to an interpreter or to a compiler.

Statement	Interpreter	Compiler
takes one statement at a time and executes it		
generates an error report at the end of translation of the whole program		
stops the translation process as soon as the first error is encountered		
slow speed of execution of program loops		
translates the entire program in one go		

[5]

Topic: 1.3.7 High- and low-level languages

May/June 2015 P12 (2210)

9 (a) Five statements about interpreters and compilers are shown in the table below.
Study each statement.

Tick (✓) to show whether the statement refers to an interpreter or to a compiler.

Statement	Interpreter	Compiler
creates an executable file that runs directly on the computer		
more likely to crash the computer since the machine code produced runs directly on the processor		
easier to debug since each line of code is analysed and checked before being executed		
slow speed of execution of program loops		
it is more difficult to modify the executable code, since it is in machine code format		

[5]

(b) State why a compiler or an interpreter is needed when running a high-level program on a computer.[1]

(c) Give **one** benefit of writing a program in a high-level language. [1]

(d) Give **one** benefit of writing a program in a low-level language. [1]

(e) Study the following three sections of code.

A:

```
1 0 1 0 1 1 0 1
1 1 0 0 1 1 1 0
1 0 1 1 0 1 1 1
```

B:

```
LDA X
INC X
STA Y
```

C:

```
FOR x ← 1 TO 10
  READ n
ENDFOR
```

Topic: 1.3.7 High- and low-level languages

Identify, using the letters A, B or C, which of the above codes is an example of assembly code, high-level language code or machine code:

Assembly code .....

High-level language code .....

Machine code .....

[2]