

Pearson BTEC Level 3 Nationals Extended Certificate,
Foundation Diploma, Diploma, Extended Diploma

Paper
reference

31768H

Computing

UNIT 1: Principles of Computer Science

Information Booklet

Do not return this Booklet with the question paper.

Instructions

- You will need the information in this booklet to answer some questions.
- Read the information carefully.
- You must **not** write your answers in this booklet.
- Only your answers given on the question paper will be marked.
- Do not return this Information Booklet with the question paper.

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SECTION 1

The information in this section should be used to answer Question 1.

Figure 1 contains information about the pay and bonuses for staff who work in Matthew's shop.

- All staff have a base pay of £50 per week.
- In addition to the base pay:
 - the manager receives £15 per hour
 - all other staff receive £10 per hour.

Bonuses

Manager

- If total weekly sales are more than £3500 and total number of customers served more than 300 a bonus of £50 can be awarded.

Other staff

- If the number of customers served by a member of staff is more than 120 a bonus of £30 can be awarded.

Figure 1

SECTION 2

The information in this section should be used to answer Question 2.

A town contains 10 000 houses. Each house owner must pay council tax based on the value of their house. The local council wants to develop a program to calculate the council tax band for each house. The council tax band must be output for each house.

House value	Council tax band
over £250 000	3
£150 000 to £250 000	2
£80 000 to £149 999	1
less than £80 000	0

Figure 2 shows part of the pseudocode that will be used to develop the new program for the local council. The pseudocode contains some errors.

```
1.  FOR count 1 To 10
2.  INPUT house_value
3.  IF house_value < 250000 THEN
4.      taxband = 3
5.  ELSEIF house_value >= 150000 THEN
6.      taxband = 2
7.  ELSEIF house_value >= 80000 THEN
8.      taxband = 1
9.  ELSE
10.     taxband = 0
11.  ENDIF
12.
13.  OUTPUT house_value
```

Figure 2

SECTION 3

The information in this section should be used to answer Question 3.

Figure 3 shows the rules the code must follow to calculate the number of pupils in each group for a school sports day.

1. There are 100 pupils.
2. Allow the user to enter a number (1 to 12) that relates to the birth month of each pupil. For example, enter 1 for January.
3. Decide which group the pupil is in:
 - Pupils born in January, February, March, or April are put into the Red group.
 - Pupils born in May, June, July, or August are put into the Green group.
 - All other pupils are put into the White group.
4. Keep a running total of how many pupils are in each group.
5. When all 100 pupils have had their details entered, output the number of pupils in each group.

Figure 3