This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners’ meeting before marking began, which would have considered the acceptability of alternative answers.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the May/June 2015 series for most Cambridge IGCSE®, Cambridge International A and AS Level components and some Cambridge O Level components.
Section A

1 (a) (i) Many correct answers, they must be meaningful. These are examples only.
   – MiddayTemperature[1:30]
   or MiddayTemperature[0:29]
   or MiddayTemperature[30]
   or MiddayTemperature[29]
   or MiddayTemperature[] (1 mark)
   – MidnightTemperature[1:30]
   or MidnightTemperature[0:29]
   or MidnightTemperature[30]
   or MidnightTemperature[29]
   or MidnightTemperature[] (1 mark) [2]

   (ii) Answers, must match above and the upper bound should have been changed from 30 to 7 or 29 to 6 or no change if not used. These are examples only.

   (iii) Any two variables with matching reasons, 1 mark for the variable and 1 mark for the matching reason. The variables and the matching reasons must relate to the tasks in the pre-release. There are many possible correct answers these are examples only.
   Variable – Counter: (Integer)
   Reason – to use as a loop counter when entering the temperature
   Variable – HighNoon: (Real)
   Reason – to store the highest midday temperature [4]
(b) If loop used
– initialisation before loop
– loop
– running total inside loop
– calculation of average outside loop
– output of average with message outside loop

(Max 4 marks)

– completion of at least 3 of initialisation, running total, calculation of average and
output of average with message for both midday and midnight

(1 mark) [5]

sample algorithm:

MiddayTotal ← 0; MidnightTotal ← 0
FOR Count ← 1 TO 7
  MiddayTotal ← MiddayTotal + MiddayTemperature[Count]
  MidnightTotal ← MidnightTotal + MidnightTemperature[Count]
NEXT Count
MiddayAverage ← MiddayTotal/7
MidnightAverage ← MidnightTotal/7
PRINT 'The average midday temperature is ', MiddayAverage
PRINT 'The average midnight temperature is ', MidnightAverage

If loop not used
– total of 7 midday temperatures
– calculation of midday average (Note could be combined as one calculation, see example below)
– total of 7 midnight temperatures
– calculation of midnight average (Note could be combined as one calculation, see example below)
– output of both averages with suitable messages

[5]

sample algorithm:


PRINT 'The average midday temperature is ', MiddayAverage
PRINT 'The average midnight temperature is ', MidnightAverage
(c) 1 mark for the data set and 1 mark for the matching reason.
There are many possible correct answers, these are examples only.

Data set  –  30, 29, 28, 31.5, 32.3, 33, 29.7
Reason  –  normal data that should be accepted

Data set  –  twenty, 23.99, seventeen, 501, –273, @#@, seventy seven
Reason  –  abnormal data that should be rejected

(d) Maximum 6 marks in total for question part

Explanation (max 6)
– set variable called HighestMidday to a large minus number
– loop (30 or 7) times to check each midday temperature in turn
– check midday temperature against HighestMidday / midday temperature >
  HighestMidday
– …replace value in HighestMidday by midday temperature
– …store array index in MiddayMonthDay/MiddayWeekday
– output HighestMidday outside the loop
– output MiddayMonthDay/MiddayWeekday outside the loop

Sample algorithm (max 4):
HighestMidday ← -999
FOR Count ← 1 TO 7
  IF MiddayTemperature [Count] > HighestMidday
    THEN HighestMidday ← MiddayTemperature[Count]
      MiddayMonthDay/MiddayWeekday ← Count
  ENDIF
NEXT Count
PRINT 'The highest midday temperature was ',HighestMidday, ' on
day ', Count

If pseudocode or programming only and no explanation, then maximum 4 marks
Section B

2  1 mark for each error identified + suggested correction
Line 1 or Small = 0: this should read Small = 999
line 5 or IF...:  this should read IF Num < Small THEN Small = Num
line 8 or UNTIL:  this should read  UNTIL Counter = 10 or
                  UNTIL Counter > = 10 or
                  UNTIL Counter > 9
line 7 or PRINT...: PRINT Small should come after the end of the repeat loop
or
line 8 or UNTIL:  this should come before line 7

3

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(2 marks)
(1 mark)
(1 mark)
(1 mark)

(–1 for each error)
(then follow through)
(allow follow through)
(from Total and Reject)

[5]
4 1 mark for each correct link, up to maximum of 4 marks

![Diagram showing data types and their values: Integer, 'a', Real, 2, Char, 2.0, String, True, Boolean, 'Twelve'.]

5 Any two points from
- a variable is used to store data that can change during the running of a program
- a constant is used to store data that will not be changed during the running of a program

6 - FOR (... TO ... NEXT)
- REPEAT (... UNTIL)
- WHILE (... DO ... ENDWHILE)

7 (a) – 7

(b) – Brochure No
- Uniquely identifies each property

(c) Garage
   Number of Bedrooms – Boolean
   Price in $ – Number/Integer/Single

(d) 399000 H13
    450000 H10

[4]
[2]
[3]
[1]
[2]
[3]
[2]
(e)  

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(1 mark) (1 mark) (1 mark) (1 mark)