SECJ 1013 PROGRAMMING TECHNIQUE 1

EXERCISE 1

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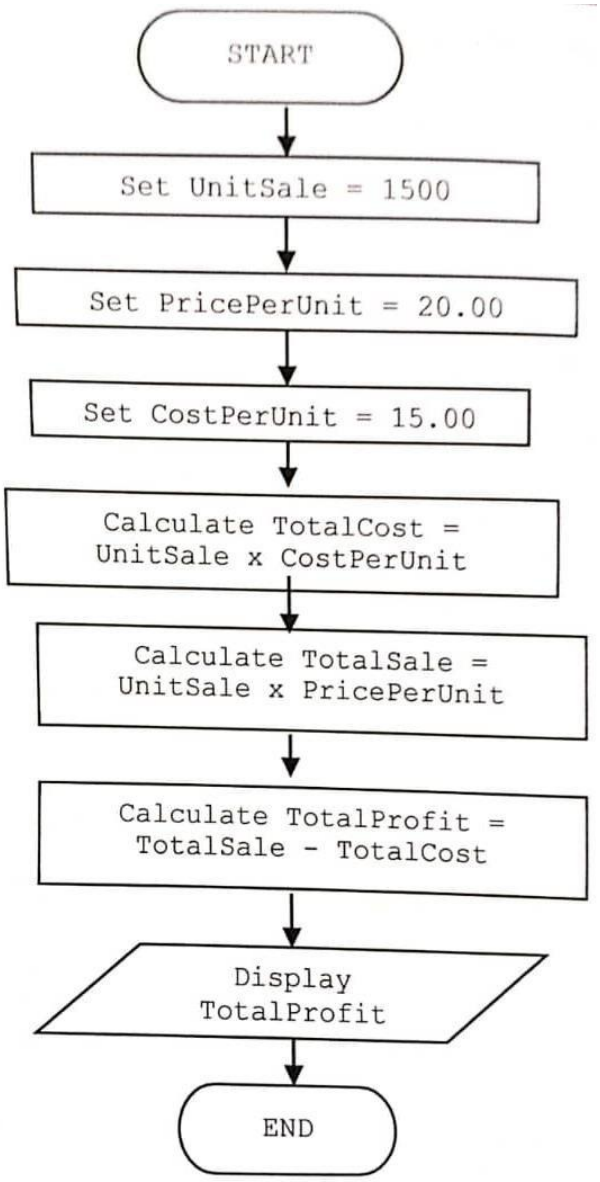
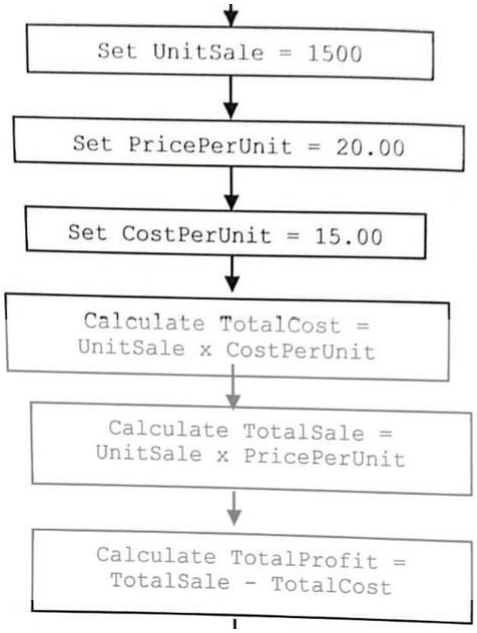
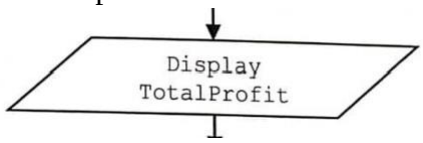
1) Based on the following flowchart, identify the input, output and process. Convert the flowchart to pseudo code.



ANS: As illustrated in the Flow Chart there is no Input.
For the process, please refer to the picture below.

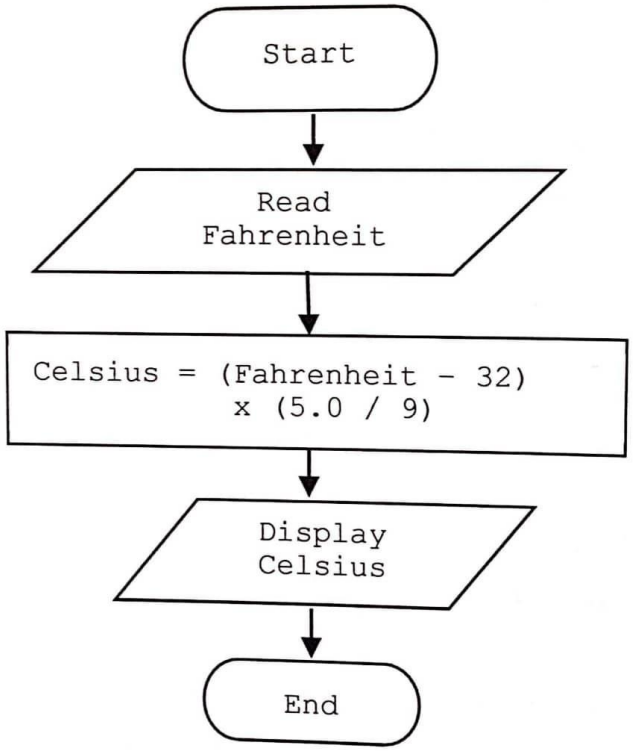


For the Output it wil be:



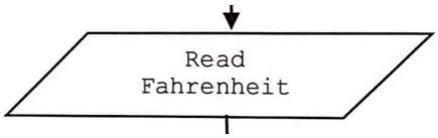
- Converting Flowchart to Pseudocode:

1. Start
2. Set Unit Sale = 1500
3. Set Price per unit = 20
4. Set Cost per unit = 15
5. Calculate Total Cost = Unit sale * Cost per unit
6. Calculate Total Sale = Unit sale * Price per unit
7. Calculate Total Profit = Total sale – Total cost
8. Display Total profit
9. End

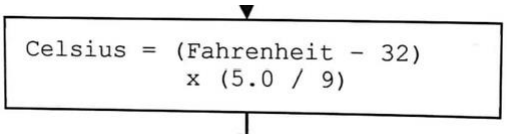


ANS:

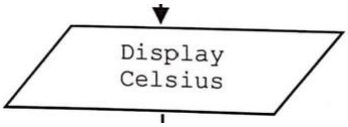
The input will be:



The Process is:



The Output is:



- Convert Flowchart to Pseudocode:

1. Start
2. Read Fahrenheit
3. Calculate Celsius = (Fahrenheit – 32) * (5/9)
4. Display Celsius
5. End

2) Trace the pseudo code in Algorithm using the following table and answer the following questions.

Algorithm 1.3: Compare between two numbers

```
1.  Start
2.  Read number1
3.  Read number2
4.  if (number1 > number2)
    4.1.  Display "number1 is bigger"
    4.2.  Display "number2 is smaller"
5.  Endif
6.  End
```

ANS:

number1	number2	Output statement
103	25	Number 1 is bigger Number 2 is smaller
90	120	No Output
15	15	No Output

a) Did the second and third data set give an output?

ANS: No Output

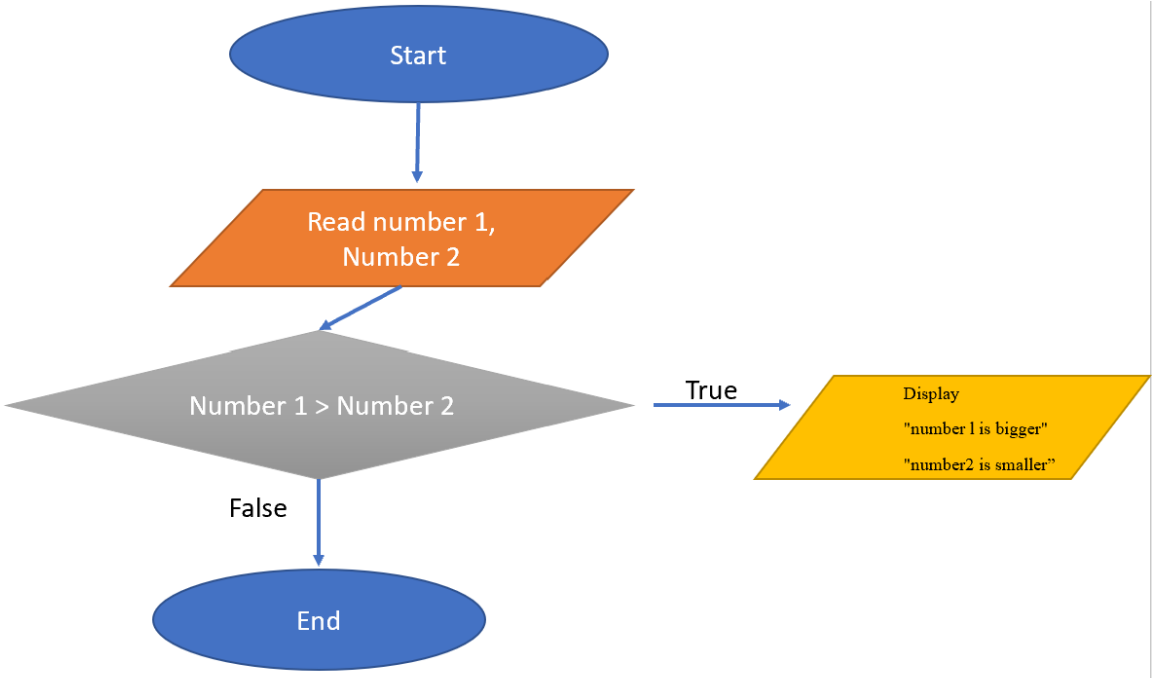
b) Add another selection in the pseudocode above so that a relevant output can be displayed.

ANS:

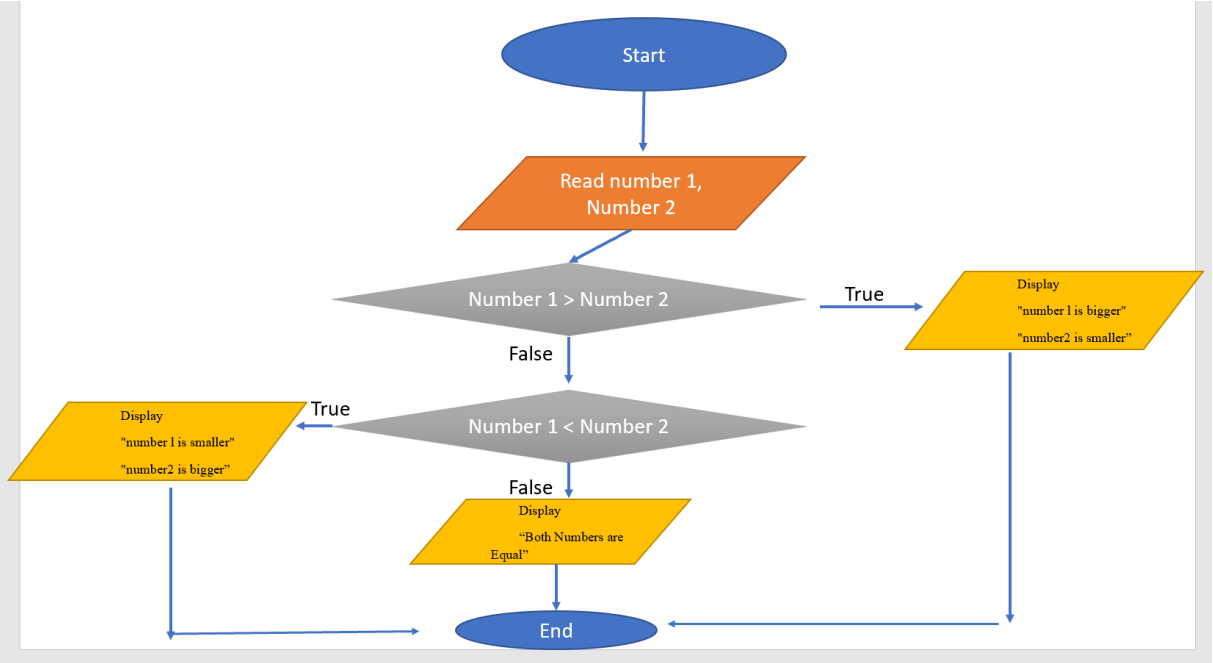
1. Start
2. Read number 1
3. Read number 2
4. if (number l > number 2):
    4.1 Display "number l is bigger"
    4.2 Display "number2 is smaller”
5. Else if (number l < number 2):
    5.1 Display "number l is smaller"
    5.2 Display "number2 is bigger”
6. Else:
    6.1 Display “Both numbers are equal”
7. End if
8. End

c) Draw a complete flowchart based on Algorithm 1.3 and your answer in (b).

Algorithm 1.3



b) Flow Chart:



3) Determine either it is True or False

int x = 8, y = -3, z = 4;

a) (x <= y) && (y > z) = F && F = F

b) (x == y) && (z > y) = F && T = F

c) (x >= z) || (y <= z) = T && T = T

d) (x == z) || (y >= z) = F && F = F

e) ! (x != z) = !T = F