

1. // Task 01
2. // Name: Sourav Malani
3. // Roll #: i19-0434
4. // Declaring variables
5. Declare Real num1, num2, greater
6. // Prompt the user for two numbers
7. Display "Enter number 1:"
8. Input num1
9. Display "Enter number 2:"
10. Input num2
11. If num1>num2 Then
12. set greater = num1
13. Display "The greater of two is", greater
14. Else
15. If num2>num1 Then
16. set greater = num2
17. Display "The greater of two is", greater
18. // Here only possibility of numbers is to be equal.
19. Else
20. Display "Numbers are equal"
21. End If
22. End If

#Dry run 1

| # | num1 | num2 | greater | num1>num2 | num2>num1 | Output |
|----|------|------|---------|-----------|-----------|--------------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | Enter number 1: |
| 8 | 8 | ? | ? | | | |
| 9 | 8 | ? | ? | | | Enter number 2: |
| 10 | 8 | 69 | ? | | | |
| 11 | 8 | 69 | ? | F | | |
| 14 | 8 | 69 | ? | | | |
| 15 | 8 | 69 | ? | | T | |
| 16 | 8 | 69 | 69 | | | |
| 17 | 8 | 69 | 69 | | | The greater of two is 69 |
| 22 | 8 | 69 | 69 | | | |

#Dry run 2

| # | num1 | num2 | greater | num1>num2 | num2>num1 | Output |
|----|------|------|---------|-----------|-----------|-------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | |
| 8 | -4 | ? | ? | | | |
| 9 | -4 | ? | ? | | | |
| 10 | -4 | -4 | ? | | | |
| 11 | -4 | -4 | ? | F | | |
| 14 | -4 | -4 | ? | | | |
| 15 | -4 | -4 | ? | | F | |
| 16 | -4 | -4 | ? | | | |
| 19 | -4 | -4 | ? | | | |
| 20 | -4 | -4 | ? | | | Numbers are equal |
| 22 | -4 | -4 | ? | | | |

#Dry run 3

| # | num1 | num2 | greater | num1>num2 | num2>num1 | Output |
|----|------|------|---------|-----------|-----------|--------------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | |
| 8 | 41 | ? | ? | | | |
| 9 | 41 | ? | ? | | | |
| 10 | 41 | 30 | ? | | | |
| 11 | 41 | 30 | ? | T | | |
| 12 | 41 | 30 | 41 | | | |
| 13 | 41 | 30 | 41 | | | The greater of two is 41 |
| 22 | 41 | 30 | 41 | | | |

```
1. //Task 02
2. // Name: Sourav Malani
3. //Roll#: i190434
4. //Declaring variables
5. Declare Real a, b, c, max
6. //Taking inputs
7. Display "Enter 1st number:"
8. Input a
9. Display "Enter 2nd number:"
10. Input b
11. Display "Enter 3rd number:"
12. Input c
13. //Checking
14. If a>=b Then
15.     If a>=c Then
16.         set max=a
17.     End If
18. Else
19.     If b>=a Then
20.         If b>=c Then
21.             set max = b
22.         End If
23.     Else
24.         If c>=a Then
25.             If c>=b Then
26.                 set max = c
27.             End If
28.         End If
29.     End If
30. End If
31. Display "The largest number is", max
```

#Dry run 1

| # | a | b | c | max | a>=b | a>=c | b>=a | b>=c | c>=a | c>=b | Output |
|----|---|---|----|-----|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 4 | ? | ? | ? | | | | | | | |
| 9 | 4 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 4 | 7 | ? | ? | | | | | | | |
| 11 | 4 | 7 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 4 | 7 | 14 | ? | | | | | | | |
| 13 | 4 | 7 | 14 | ? | | | | | | | |
| 14 | 4 | 7 | 14 | ? | F | | | | | | |
| 19 | 4 | 7 | 14 | ? | | | T | | | | |
| 20 | 4 | 7 | 14 | ? | | | | F | | | |
| 24 | 4 | 7 | 14 | ? | | | | | T | | |
| 25 | 4 | 7 | 14 | ? | | | | | | T | |
| 26 | 4 | 7 | 14 | 14 | | | | | | | |
| 27 | 4 | 7 | 14 | 14 | | | | | | | |
| 28 | 4 | 7 | 14 | 14 | | | | | | | |
| 29 | 4 | 7 | 14 | 14 | | | | | | | |
| 30 | 4 | 7 | 14 | 14 | | | | | | | |
| 31 | 4 | 7 | 14 | 14 | | | | | | | The largest number is 14 |

#Dry run 2

| # | a | b | c | max | a>=b | a>=c | b>=a | b>=c | c>=a | c>=b | Output |
|----|----|----|----|-----|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 30 | ? | ? | ? | | | | | | | |
| 9 | 30 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 30 | 17 | ? | ? | | | | | | | |
| 11 | 30 | 17 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 30 | 17 | 14 | ? | | | | | | | |
| 13 | 30 | 17 | 14 | ? | | | | | | | |
| 14 | 30 | 17 | 14 | ? | T | | | | | | |
| 15 | 30 | 17 | 14 | ? | | T | | | | | |
| 16 | 30 | 17 | 14 | 30 | | | | | | | |
| 17 | 30 | 17 | 14 | 30 | | | | | | | |
| 31 | 30 | 17 | 14 | 30 | | | | | | | The largest number is 30 |

#Dry run 3. I have entered all number equal. In this case the greatest will be same.

because if two of the number were to be same and to be greater of third then the only greater will be considered as greatest.

| # | a | b | c | max | a>=b | a>=c | b>=a | b>=c | c>=a | c>=b | Output |
|----|---|---|---|-----|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 4 | ? | ? | ? | | | | | | | |
| 9 | 4 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 4 | 4 | ? | ? | | | | | | | |
| 11 | 4 | 4 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 4 | 4 | 4 | ? | | | | | | | |
| 13 | 4 | 4 | 4 | ? | | | | | | | |
| 14 | 4 | 4 | 4 | ? | T | | | | | | |
| 15 | 4 | 4 | 4 | ? | | T | | | | | |
| 16 | 4 | 4 | 4 | 4 | | | | | | | |
| 17 | 4 | 4 | 4 | 4 | | | | | | | |
| 31 | 4 | 4 | 4 | 4 | | | | | | | The largest number is 4 |

```

1. // Task 03
2. // Roll#: i19-0434
3. // Name: Sourav Malani
4. // Declaring Variables
5. Declare Real a, b
6. //Taking Inputs
7. Display "Enter 1st number:"
8. Input a
9. Display "Enter 2nd number:"
10. Input b
11. // Checking
12. If a==b Then
13.     Display "Numbers are same", a, b
14. Else
15.     If a<b Then
16.         Display "Ascending Order is:", a, b
17.     Else
18.         If a>b Then
19.             Display "Order is", b, a
20.         End If
21.     End If
22. End If

```

| # | a | b | a==b | a<b | a>b | Output |
|----|---|---|------|-----|-----|-------------------------------|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | ? | ? | | | | |
| 7 | ? | ? | | | | Enter 1 st number: |
| 8 | 4 | ? | | | | |
| 9 | 4 | ? | | | | Enter 2 nd number: |
| 10 | 4 | 5 | | | | |
| 11 | 4 | 5 | | | | |
| 12 | 4 | 5 | F | | | |
| 15 | 4 | 5 | | T | | |
| 16 | 4 | 5 | | | | Ascending Order is: 4, 5 |
| 22 | 4 | 5 | | | | |

| # | a | b | a==b | a<b | a>b | Output |
|----|---|---|------|-----|-----|-------------------------------|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | ? | ? | | | | |
| 7 | ? | ? | | | | Enter 1 st number: |
| 8 | 4 | ? | | | | |
| 9 | 4 | ? | | | | Enter 2 nd number: |
| 10 | 4 | 1 | | | | |
| 11 | 4 | 1 | | | | |
| 12 | 4 | 1 | F | | | |
| 15 | 4 | 1 | | F | | |
| 18 | 4 | 1 | | | T | |
| 19 | 4 | 1 | | | | Order is 1, 4 |
| 22 | 4 | 1 | | | | |

| # | a | b | a==b | a<b | a>b | Output |
|----|---|---|------|-----|-----|-------------------------------|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | ? | ? | | | | |
| 7 | ? | ? | | | | Enter 1 st number: |
| 8 | 4 | ? | | | | |
| 9 | 4 | ? | | | | Enter 2 nd number: |
| 10 | 4 | 4 | | | | |
| 11 | 4 | 4 | | | | |
| 12 | 4 | 4 | T | | | |
| 13 | 4 | 4 | | | | |
| 22 | 4 | 4 | | | | Numbers are same 4,4 |

```
1. // Task 04
2. // Roll #: i19-0434
3. // Name Sourav
4. // Declaring variables
5. Declare Real a, b, c
6. // Taking Inputs
7. Display "Enter 1st number:"
8. Input a
9. Display "Enter 2nd number:"
10. Input b
11. Display "Enter 3rd number:"
12. Input c
13. // Checking
14. If a <= b Then
15.     If a<=c Then
16.         If b<=c Then
17.             Display "Increasing order will be", a, b, c
18.         Else
19.             Display "Increasing order will be", a, c, b
20.         End If
21.     End If
22. End If
23. If b<=a Then
24.     If b<=c Then
25.         If a<=c Then
26.             Display "Increasing order will be", b, a, c
27.         Else
28.             Display "Increasing order will be", b, c, a
29.         End If
30.     End If\
31. End If
32. If c<=a Then
33.     If c<=a Then
34.         If a<=b Then
35.             Display "Increasing order will be", c, a, b
36.         Else
37.             Display "Increasing order will be", c, b, a
38.         End If
39.     End If
40. End If
```


[illegible]

1. // Task 05
2. // Name: Sourav Malani
3. // Roll #: i19-0434
4. // Declaring variables
5. Declare Real num1, num2, small
6. // Prompt the user for two numbers
7. Display "Enter number 1: "
8. Input num1
9. Display "Enter number 2: "
10. Input num2
11. If num1<num2 Then
12. set small = num1
13. Display "The smaller of two is", small
14. Else
15. If num2<num1 Then
16. set small = num2
17. Display "The smaller of two is", small
18. // Here only possibility of numbers is to be equal.
19. Else
20. Display "Numbers are equal"
21. End If
22. End If

| # | num1 | num2 | small | num1<num2 | num2<num1 | Output |
|----|------|------|-------|-----------|-----------|-------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | Enter number 1: |
| 8 | 8 | ? | ? | | | |
| 9 | 8 | ? | ? | | | Enter number 2: |
| 10 | 8 | 8 | ? | | | |
| 11 | 8 | 8 | ? | F | | |
| 15 | 8 | 8 | ? | | F | |
| 20 | 8 | 8 | ? | | | Numbers are equal |
| 22 | 8 | 8 | ? | | | |

| # | num1 | num2 | small | num1<num2 | num2<num1 | Output |
|----|------|------|-------|-----------|-----------|--------------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | Enter number 1: |
| 8 | 81 | ? | ? | | | |
| 9 | 81 | ? | ? | | | Enter number 2: |
| 10 | 81 | 69 | ? | | | |
| 11 | 81 | 69 | ? | F | | |
| 15 | 81 | 69 | ? | | T | |
| 16 | 81 | 69 | 69 | | | |
| 17 | 81 | 69 | 69 | | | The smaller of two is 69 |
| 22 | 81 | 69 | 69 | | | |

| # | num1 | num2 | small | num1<num2 | num2<num1 | Output |
|----|------|------|-------|-----------|-----------|-------------------------|
| 1 | ? | ? | ? | | | |
| 2 | ? | ? | ? | | | |
| 3 | ? | ? | ? | | | |
| 4 | ? | ? | ? | | | |
| 5 | ? | ? | ? | | | |
| 6 | ? | ? | ? | | | |
| 7 | ? | ? | ? | | | Enter number 1: |
| 8 | 8 | ? | ? | | | |
| 9 | 8 | ? | ? | | | Enter number 2: |
| 10 | 8 | 69 | ? | | | |
| 11 | 8 | 69 | ? | T | | |
| 12 | 8 | 69 | 8 | | T | |
| 13 | 8 | 69 | 8 | | | The smaller of two is 8 |
| 22 | 8 | 69 | 8 | | | |

```

1. //Task 06
2. // Name: Sourav Malani
3. //Roll#: i190434
4. //Declaring variables
5. Declare Real a, b, c, small
6. //Taking inputs
7. Display "Enter 1st number:"
8. Input a
9. Display "Enter 2nd number:"
10. Input b
11. Display "Enter 3rd number:"
12. Input c
13. //Checking
14. If a<=b Then
15.   If a<=c Then
16.     set small=a
17.   End If
18. End If
19. If b<=a Then
20.   If b<=c Then
21.     set small = b
22.   End If
23. End If
24. If c<=a Then
25.   If c<=b Then
26.     set small = c
27.   End If
28. End If
29. Display "The smallest number is", small

```

#Dry Run 1. *If 2 or all 3 number are same then. it shows one of the smallest.*

| # | a | b | c | small | a<=b | a<=c | b<=a | b<=c | c<=a | c<=b | Output |
|----|----|----|----|-------|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 10 | ? | ? | ? | | | | | | | |
| 9 | 10 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 10 | 10 | ? | ? | | | | | | | |
| 11 | 10 | 10 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 10 | 10 | 10 | ? | | | | | | | |
| 13 | 10 | 10 | 10 | ? | | | | | | | |
| 14 | 10 | 10 | 10 | ? | T | | | | | | |
| 15 | 10 | 10 | 10 | ? | | T | | | | | |
| 16 | 10 | 10 | 10 | 10 | | | | | | | |
| 17 | 10 | 10 | 10 | 10 | | | | | | | |
| 18 | 10 | 10 | 10 | 10 | | | | | T | | |
| 29 | 10 | 10 | 10 | 10 | | | | | | | The smallest number is 10 |

#Dry Run 2.

| # | a | b | c | small | a<=b | a<=c | b<=a | b<=c | c<=a | c<=b | Output |
|----|----|---|---|-------|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 10 | ? | ? | ? | | | | | | | |
| 9 | 10 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 10 | 2 | ? | ? | | | | | | | |
| 11 | 10 | 2 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 10 | 2 | 7 | ? | | | | | | | |
| 13 | 10 | 2 | 7 | ? | | | | | | | |
| 14 | 10 | 2 | 7 | ? | F | | | | | | |
| 19 | 10 | 2 | 7 | ? | | | T | | | | |
| 20 | 10 | 2 | 7 | ? | | | | T | | | |
| 21 | 10 | 2 | 7 | 2 | | | | | T | | |
| 29 | 10 | 2 | 7 | 2 | | | | | | | The smallest number is 2 |

#Dry Run 3.

| # | a | b | c | small | a<=b | a<=c | b<=a | b<=c | c<=a | c<=b | Output |
|----|----|----|---|-------|------|------|------|------|------|------|-------------------------------|
| 1 | ? | ? | ? | ? | | | | | | | |
| 2 | ? | ? | ? | ? | | | | | | | |
| 3 | ? | ? | ? | ? | | | | | | | |
| 4 | ? | ? | ? | ? | | | | | | | |
| 5 | ? | ? | ? | ? | | | | | | | |
| 6 | ? | ? | ? | ? | | | | | | | |
| 7 | ? | ? | ? | ? | | | | | | | Enter 1 st number: |
| 8 | 10 | ? | ? | ? | | | | | | | |
| 9 | 10 | ? | ? | ? | | | | | | | Enter 2 nd number: |
| 10 | 10 | 10 | ? | ? | | | | | | | |
| 11 | 10 | 10 | ? | ? | | | | | | | Enter 3 rd number: |
| 12 | 10 | 10 | 7 | ? | | | | | | | |
| 13 | 10 | 10 | 7 | ? | | | | | | | |
| 14 | 10 | 10 | 7 | ? | T | | | | | | |
| 15 | 10 | 10 | 7 | ? | | F | | | | | |
| 20 | 10 | 10 | 7 | ? | | | | T | | | |
| 21 | 10 | 10 | 7 | 2 | | | | | T | | |
| 29 | 10 | 10 | 7 | 2 | | | | | | | The smallest number is 2 |

1. // Task 07
2. // Roll#: i19-0434
3. // Name: Sourav Malani
4. // Declaring Variables
5. Declare Integer a
6. Declare Integer b
7. //Taking Inputs
8. Display “Enter 1st number:”
9. Input a
10. Display “Enter 2nd number:”
11. Input b
12. // Checking
13. If a==b Then
14. Display “Numbers are same”, a, b
15. Else
16. If a>b Then
17. Display “Decreasing Order is:”, a, b
18. Else
19. Display “Decreasing Order is”, b, a
20. End If
21. End If

| # | a | b | a==b | a>b | Output |
|----|---|---|------|-----|-------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | ? | | | |
| 7 | ? | ? | | | |
| 8 | ? | ? | | | Enter 1 st number: |
| 9 | 4 | ? | | | |
| 10 | 4 | ? | | | Enter 2 nd number: |
| 11 | 4 | 5 | | | |
| 12 | 4 | 5 | | | |
| 13 | 4 | 5 | F | | |
| 16 | 4 | 5 | | F | |
| 18 | 4 | 5 | | | |
| 19 | 4 | 5 | | | Decreasing Order is 5, 4 |
| 20 | 4 | 5 | | | |
| 21 | 4 | 5 | | | |

| # | a | b | a==b | a>b | Output |
|----|---|---|------|-----|-------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | ? | | | |
| 7 | ? | ? | | | |
| 8 | ? | ? | | | Enter 1 st number: |
| 9 | 4 | ? | | | |
| 10 | 4 | ? | | | Enter 2 nd number: |
| 11 | 4 | 4 | | | |
| 12 | 4 | 4 | | | |
| 13 | 4 | 4 | T | | |
| 14 | 4 | 4 | | | Numbers are same 4, 4 |
| 21 | 4 | 4 | | | |

| # | a | b | a==b | a>b | Output |
|----|----|---|------|-----|-------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | ? | | | |
| 7 | ? | ? | | | |
| 8 | ? | ? | | | Enter 1 st number: |
| 9 | 14 | ? | | | |
| 10 | 14 | ? | | | Enter 2 nd number: |
| 11 | 14 | 5 | | | |
| 12 | 14 | 5 | | | |
| 13 | 14 | 5 | F | | |
| 16 | 14 | 5 | | T | |
| 17 | 14 | 5 | | | Decreasing Order is 14, 5 |
| 21 | 14 | 5 | | | |


```
1. // Task 08
2. // Roll #: i19-0434
3. // Name: Sourav Malani
4. // Declaring variables
5. Declare Real a, b, c
6. // Taking Inputs
7. Display "Enter 1st number"
8. Input a
9. Display "Enter 2nd number"
10. Input b
11. Display "Enter 3rd number"
12. Input c
13. // Checking
14. If a <= b Then
15.     If a <= c Then
16.         If b <= c Then
17.             Display "Decreasing order will be", c, b, a
18.         Else
19.             Display "Decreasing order will be", b, c, a
20.         End If
21.     End If
22. End If
23. If b <= a Then
24.     If b <= c Then
25.         If a <= c Then
26.             Display "Decreasing order will be", c, a, b
27.         Else
28.             Display "Decreasing order will be", a, c, b
29.         End If
30.     End If
31. End If
32. If c <= a Then
33.     If c <= b Then
34.         If a <= b Then
35.             Display "Decreasing order will be", b, a, c
36.         Else
37.             Display "Decreasing order will be", a, b, c
38.         End If
39.     End If
40. End If
```


[illegible]

1. // Task 09
2. // Roll #: i19-0434
3. // Name: Sourav Malani
4. // Declaring variables
5. Declare Real a
6. Declare Real b
7. Declare Real c
8. // Taking Inputs
9. Display “Enter 1st number:”
10. Input a
11. Display “Enter 2nd number:”
12. Input b
13. Display “Enter 3rd number:”
14. Input c
15. Display, “The Average of three numbers is”, $(a + b + c)/3$

| # | a | b | c | Output |
|----|---|---|---|-----------------------------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | ? | ? | ? | |
| 6 | ? | ? | ? | |
| 7 | ? | ? | ? | |
| 8 | ? | ? | ? | |
| 9 | ? | ? | ? | Enter 1 st number: |
| 10 | 0 | ? | ? | |
| 11 | 0 | ? | ? | Enter 2 nd number: |
| 12 | 0 | 2 | ? | |
| 13 | 0 | 2 | ? | Enter 3 rd number: |
| 14 | 0 | 2 | 7 | |
| 15 | 0 | 2 | 7 | The Average of three numbers is 3 |

| # | a | b | c | Output |
|----|---|---|---|-----------------------------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | ? | ? | ? | |
| 6 | ? | ? | ? | |
| 7 | ? | ? | ? | |
| 8 | ? | ? | ? | |
| 9 | ? | ? | ? | Enter 1 st number: |
| 10 | 2 | ? | ? | |
| 11 | 2 | ? | ? | Enter 2 nd number: |
| 12 | 2 | 9 | ? | |
| 13 | 2 | 9 | ? | Enter 3 rd number: |
| 14 | 2 | 9 | 7 | |
| 15 | 2 | 9 | 7 | The Average of three numbers is 6 |

| # | a | b | c | Output |
|----|---|---|---|-----------------------------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | ? | ? | ? | |
| 6 | ? | ? | ? | |
| 7 | ? | ? | ? | |
| 8 | ? | ? | ? | |
| 9 | ? | ? | ? | Enter 1 st number: |
| 10 | 0 | ? | ? | |
| 11 | 0 | ? | ? | Enter 2 nd number: |
| 12 | 0 | 2 | ? | |
| 13 | 0 | 2 | ? | Enter 3 rd number: |
| 14 | 0 | 2 | 7 | |
| 15 | 0 | 2 | 7 | The Average of three numbers is 3 |

```

1. //Task 10
2. //Name: Sourav Malani
3. //Roll #: i19-0434
4. Declare score
5. //Taking input
6. Display "Tell me your score and I'll tell you the grade:"
7. Input score
8. //Conditions
9. If score >=90 Then
10.     Display "You got A+"
11. Else
12.     If score>=80 Then
13.         Display "You got A"
14.     Else
15.         If score>=70 Then
16.             Display "You got B"
17.         Else
18.             If score>=60 Then
19.                 Display "You got C"
20.             Else
21.                 If score>=50
22.                     Display "Oops! You got D"
23.                 Else
24.                     Display "You got failed. F"
25.                 End If
26.             End If
27.         End If
28.     End If
29. End If

```

Dry Run 1

| # | score | score >=90 | score >=80 | score >=70 | score >=60 | score >=50 | Output |
|----|-------|------------|------------|------------|------------|------------|-----------|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | |
| 6 | ? | | | | | | |
| 7 | 72 | | | | | | |
| 8 | 72 | | | | | | |
| 9 | 72 | F | | | | | |
| 11 | 72 | | | | | | |
| 12 | 72 | | F | | | | |
| 14 | 72 | | | | | | |
| 15 | 72 | | | T | | | |
| 16 | 72 | | | | | | You got B |
| 29 | 72 | | | | | | |

Dry Run 2

| # | score | score ≥90 | score ≥80 | score ≥70 | score ≥60 | score ≥50 | Output |
|----|-------|--------------|--------------|--------------|--------------|--------------|-------------------|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | |
| 6 | ? | | | | | | |
| 7 | 45 | | | | | | |
| 8 | 45 | | | | | | |
| 9 | 45 | F | | | | | |
| 11 | 45 | | | | | | |
| 12 | 45 | | F | | | | |
| 14 | 45 | | | | | | |
| 15 | 45 | | | F | | | |
| 17 | 45 | | | | | | |
| 18 | 45 | | | | F | | |
| 20 | 45 | | | | | | |
| 21 | 45 | | | | | F | |
| 23 | 45 | | | | | | |
| 24 | 45 | | | | | | You got failed. F |

Dry Run 3

| # | score | score ≥90 | score ≥80 | score ≥70 | score ≥60 | score ≥50 | Output |
|----|-------|--------------|--------------|--------------|--------------|--------------|------------|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | |
| 6 | ? | | | | | | |
| 7 | 99 | | | | | | |
| 8 | 99 | T | | | | | |
| 9 | 99 | | | | | | |
| 10 | 99 | | | | | | You got A+ |
| 29 | 99 | | | | | | |

1. //Task 11
2. //Name: Sourav Malani
3. //Roll #: i19-0434
4. Declare Integer age
5. //Taking input
6. Display “Tell me your age:”
7. Input age
8. //Conditions
9. If age >=65 Then
10. Display “You are a senior citizen.”
11. Else
12. If age>=18 Then
13. Display “You are an Adult.”
14. Else
15. If age>=1 Then
16. Display “You are a Child”
17. Else
18. “Input a valid age.”
19. End If
20. End If
21. End If

| # | age | age>=65 | age>=18 | age>=1 | Output |
|----|-----|---------|---------|--------|---------------------------|
| 1 | ? | | | | |
| 2 | ? | | | | |
| 3 | ? | | | | |
| 4 | ? | | | | |
| 5 | ? | | | | |
| 6 | ? | | | | |
| 7 | 65 | | | | |
| 8 | 65 | | | | |
| 9 | 65 | T | | | |
| 10 | 65 | | | | You are a senior citizen. |
| 21 | 65 | | | | |

| # | age | age>=65 | age>=18 | age>=1 | Output |
|----|-----|---------|---------|--------|-----------------|
| 1 | ? | | | | |
| 2 | ? | | | | |
| 3 | ? | | | | |
| 4 | ? | | | | |
| 5 | ? | | | | |
| 6 | ? | | | | |
| 7 | 14 | | | | |
| 8 | 14 | | | | |
| 9 | 14 | F | | | |
| 11 | 14 | | | | |
| 12 | 14 | | F | | |
| 14 | 14 | | | | |
| 15 | 14 | | | T | |
| 16 | 14 | | | | You are a child |
| 21 | 14 | | | | |

| # | age | age>=65 | age>=18 | age>=1 | Output |
|----|-----|---------|---------|--------|--------------------|
| 1 | ? | | | | |
| 2 | ? | | | | |
| 3 | ? | | | | |
| 4 | ? | | | | |
| 5 | ? | | | | |
| 6 | ? | | | | |
| 7 | 0 | | | | |
| 8 | 0 | | | | |
| 9 | 0 | F | | | |
| 11 | 0 | | | | |
| 12 | 0 | | F | | |
| 14 | 0 | | | | |
| 15 | 0 | | | F | |
| 18 | 0 | | | | Input a valid age. |
| 21 | 0 | | | | |

```

1. //Task 12
2. //Roll#: i19-0434
3. //Name: Sourav Malani
4. //Declaring Variables
5. Declare Real a, b
6. Declare String c
7. // Inputs
8. Display "Enter 1st number:"
9. Input a
10. Display "Enter 2nd number"
11. Input b
12. Display "Enter the operation you want to perform, (+, -, *, /):"
13. Input c
14. If c== "+" Then
15.     Display "Answer is", a + b
16. Else
17.     If c== "-" Then
18.         Display "Answer is", a-b
19.     Else
20.         If c== "*" Then
21.             Display "Answer is", a*b
22.         Else
23.             If c== "/" Then
24.                 If b==0 Then
25.                     Display "Division by zero not possible."
26.                 Else
27.                     Display "Answer is", a/b
28.                 End If
29.             Else
30.                 Display "Enter a valid input."
31.             End If
32.         End If
33. End If

```

| # | a | b | c | c== "+" | c== "-" | c== "*" | c== "/" | b==0 | Output |
|----|---|---|---|---------|---------|---------|---------|------|---------------|
| 1 | ? | ? | ? | | | | | | |
| 2 | ? | ? | ? | | | | | | |
| 3 | ? | ? | ? | | | | | | |
| 4 | ? | ? | ? | | | | | | |
| 5 | ? | ? | ? | | | | | | |
| 6 | ? | ? | ? | | | | | | |
| 7 | ? | ? | ? | | | | | | |
| 8 | ? | ? | ? | | | | | | |
| 9 | 5 | ? | ? | | | | | | |
| 10 | 5 | ? | ? | | | | | | |
| 11 | 5 | 5 | ? | | | | | | |
| 12 | 5 | 5 | ? | | | | | | |
| 13 | 5 | 5 | / | | | | | | |
| 14 | 5 | 5 | / | F | | | | | |
| 17 | 5 | 5 | / | | F | | | | |
| 20 | 5 | 5 | / | | | F | | | |
| 23 | 5 | 5 | / | | | | T | | |
| 24 | 5 | 5 | / | | | | | F | |
| 26 | 5 | 5 | + | | | | | | |
| 27 | 5 | 5 | + | | | | | | Answer is 1.0 |

| # | a | b | c | c== "+" | c== "-" | c== "*" | c== "/" | b==0 | Output |
|----|----|---|---|---------|---------|---------|---------|------|----------------|
| 1 | ? | ? | ? | | | | | | |
| 2 | ? | ? | ? | | | | | | |
| 3 | ? | ? | ? | | | | | | |
| 4 | ? | ? | ? | | | | | | |
| 5 | ? | ? | ? | | | | | | |
| 6 | ? | ? | ? | | | | | | |
| 7 | ? | ? | ? | | | | | | |
| 8 | ? | ? | ? | | | | | | |
| 9 | 15 | ? | ? | | | | | | |
| 10 | 15 | ? | ? | | | | | | |
| 11 | 15 | 5 | ? | | | | | | |
| 12 | 15 | 5 | ? | | | | | | |
| 13 | 15 | 5 | - | | | | | | |
| 14 | 15 | 5 | - | F | | | | | |
| 17 | 15 | 5 | - | | T | | | | |
| 18 | 15 | 5 | - | | | | | | Answer is 10.0 |
| 32 | 15 | 5 | - | | | | T | | |

| # | a | b | c | c== "+" | c== "-" | c== "*" | c== "/" | b==0 | Output |
|----|----|---|---|---------|---------|---------|---------|------|----------------|
| 1 | ? | ? | ? | | | | | | |
| 2 | ? | ? | ? | | | | | | |
| 3 | ? | ? | ? | | | | | | |
| 4 | ? | ? | ? | | | | | | |
| 5 | ? | ? | ? | | | | | | |
| 6 | ? | ? | ? | | | | | | |
| 7 | ? | ? | ? | | | | | | |
| 8 | ? | ? | ? | | | | | | |
| 9 | 15 | ? | ? | | | | | | |
| 10 | 15 | ? | ? | | | | | | |
| 11 | 15 | 5 | ? | | | | | | |
| 12 | 15 | 5 | ? | | | | | | |
| 13 | 15 | 5 | + | | | | | | |
| 14 | 15 | 5 | + | T | | | | | |
| 15 | 15 | 5 | + | | | | | | Answer is 20.0 |
| 32 | 15 | 5 | + | | | | T | | |

1. //Task 13
2. //Roll#: i19-0434
3. //Name: Sourav Malani
4. //Variables
5. Declare Integer count
6. Declare Integer y
7. Declare Integer x //x will be 2 if output is 1 2 1
8. set count=0
9. set y=1
10. //Input
11. Display "Enter the number please:"
12. Input x
13. While y! = (x+1) Then // If x is 3 then this loop runs 3 times.
14. DisplayOnSameLine y, "" // if x is 3 then displays 1 2 3
15. set y= y+1
16. set count= count+1
17. If count==x Then //if x is 3 then count becomes 3 in end.
18. set count=count-1
19. While count != 0 Then // keep decreasing count and display it till it is not equal to zero.
20. DisplayOnSameLine count, " "
21. set count = count-1
22. End While
23. End If
24. End While

| # | y | x | count | While y! = (x+1) | If count==x | While count! = 0 | Output |
|----|---|---|-------|------------------|-------------|------------------|--------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | |
| 6 | ? | ? | ? | | | | |
| 7 | ? | ? | ? | | | | |
| 8 | ? | ? | 0 | | | | |
| 9 | 1 | ? | 0 | | | | |
| 10 | 1 | ? | 0 | | | | |
| 11 | 1 | ? | 0 | | | | Enter the number please: |
| 12 | 1 | 5 | 0 | | | | |
| 13 | 1 | 5 | 0 | 1! = 6 T | | | |
| 14 | 1 | 5 | 0 | | | | 1 |
| 15 | 2 | 5 | 0 | | | | |
| 16 | 2 | 5 | 1 | | | | |
| 17 | 2 | 5 | 1 | | F | | |
| 13 | 2 | 5 | 1 | 2! = 6 T | | | |
| 14 | 2 | 5 | 1 | | | | 1 2 |
| 15 | 3 | 5 | 1 | | | | |
| 16 | 3 | 5 | 2 | | | | |
| 17 | 3 | 5 | 2 | | F | | |
| 13 | 3 | 5 | 2 | 3 != 6 T | | | |
| 14 | 3 | 5 | 2 | | | | 1 2 3 |
| 15 | 4 | 5 | 2 | | | | |
| 16 | 4 | 5 | 3 | | | | |
| 17 | 4 | 5 | 3 | | F | | |
| 13 | 4 | 5 | 3 | 4 !=6 T | | | |
| 14 | 4 | 5 | 3 | | | | 1 2 3 4 |
| 15 | 5 | 5 | 3 | | | | |
| 16 | 5 | 5 | 4 | | | | |
| 17 | 5 | 5 | 4 | | F | | |
| 13 | 5 | 5 | 4 | 5!=6 T | | | |
| 14 | 5 | 5 | 4 | | | | 1 2 3 4 5 |
| 15 | 6 | 5 | 4 | | | | |
| 16 | 6 | 5 | 5 | | | | |
| 17 | 6 | 5 | 5 | | T | | |
| 18 | 6 | 5 | 4 | | | | |
| 19 | 6 | 5 | 4 | | | T | |
| 20 | 6 | 5 | 4 | | | | 1 2 3 4 5 4 |
| 21 | 6 | 4 | 3 | | | | |
| 19 | 6 | 4 | 3 | | | T | |
| 20 | 6 | 4 | 3 | | | | 1 2 3 4 5 4 3 |
| 21 | 6 | 4 | 2 | | | | |
| 19 | 6 | 4 | 2 | | | T | |
| 20 | 6 | 4 | 2 | | | | 1 2 3 4 5 4 3 2 |
| 21 | 6 | 4 | 1 | | | | |
| 19 | 6 | 4 | 1 | | | T | |
| 20 | 6 | 4 | 1 | | | | 1 2 3 4 5 4 3 2 1 |
| 21 | 6 | 4 | 0 | | | | |
| 19 | 6 | 4 | 0 | | | F | |
| 22 | 6 | 4 | 0 | | | | |
| 23 | 6 | 4 | 0 | | | | |
| 24 | 6 | 4 | 0 | | | | |

| # | y | x | count | While y! = (x+1) | If count==x | While count! = 0 | Output |
|----|---|---|-------|------------------|-------------|------------------|--------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | |
| 6 | ? | ? | ? | | | | |
| 7 | ? | ? | ? | | | | |
| 8 | ? | ? | 0 | | | | |
| 9 | 1 | ? | 0 | | | | |
| 10 | 1 | ? | 0 | | | | |
| 11 | 1 | ? | 0 | | | | |
| 12 | 1 | 2 | 0 | | | | |
| 13 | 1 | 2 | 0 | 1! =3 T | | | |
| 14 | 1 | 2 | 0 | | | | 1 |
| 15 | 2 | 2 | 0 | | | | |
| 16 | 2 | 2 | 1 | | | | |
| 17 | 2 | 2 | 1 | | F | | |
| 13 | 2 | 2 | 1 | 2! =3 T | | | |
| 14 | 2 | 2 | 1 | | | | 1 2 |
| 15 | 3 | 2 | 1 | | | | |
| 16 | 3 | 2 | 2 | | | | |
| 17 | 3 | 2 | 2 | | T | | |
| 18 | 3 | 2 | 1 | | | | |
| 19 | 3 | 2 | 1 | | | T | |
| 20 | 3 | 2 | 1 | | | | 1 2 1 |
| 21 | 3 | 2 | 0 | | | | |
| 19 | 3 | 2 | 0 | | | F | |
| 24 | 3 | 2 | 0 | | | | |

| # | y | x | count | While y! = (x+1) | If count==x | While count! = 0 | Output |
|----|---|---|-------|------------------|-------------|------------------|--------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | |
| 6 | ? | ? | ? | | | | |
| 7 | ? | ? | ? | | | | |
| 8 | ? | ? | 0 | | | | |
| 9 | 1 | ? | 0 | | | | |
| 10 | 1 | ? | 0 | | | | |
| 11 | 1 | ? | 0 | | | | |
| 12 | 1 | 1 | 0 | | | | |
| 13 | 1 | 1 | 0 | 1 != 2 T | | | |
| 14 | 1 | 1 | 0 | | | | 1 |
| 15 | 2 | 1 | 0 | | | | |
| 16 | 2 | 1 | 1 | | | | |
| 17 | 2 | 1 | 1 | | T | | |
| 18 | 2 | 1 | 0 | | | | |
| 19 | 2 | 1 | 0 | | | F | |
| 24 | 2 | 1 | 0 | | | | |

1. //Task 14
2. //Roll#: i19-0434
3. //Name: Sourav Malani
4. //Declaring variable
5. Declare Integer x // User Input
6. Declare Integer F //F is factorial here.
7. Declare Real y //This is to keep running while loop.
8. Display "Enter the number:" // Taking Input
9. Input x
10. set F = x //Basically the algorithm is to multiply number given to previous numbers.
11. set y = 0
12. If x>0 Then //If positive number.
13. While y != (x-1) //This loop calculates factorial.
14. set y= y+1 //if number, to be factorized, were 3 then
15. set F= F * (x-y) // 3*(3-1) and then 6*(3-2).
16. End While
17. Display F, " is factorial of ", x
18. Else
19. If x==0 Then //If user enters 0.
20. Display "Factorial is 1."
21. Else //If the number is negative.
22. Display "Factorial not possible."
23. End If
24. End If

| # | x | F | y | If x>0 | If x==0 | Else(x<0) | y !=(x-1) | Output |
|----|---|----|---|--------|---------|-----------|-----------|----------------------|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | ? | ? | ? | | | | | |
| 7 | ? | ? | ? | | | | | |
| 8 | ? | ? | ? | | | | | Enter the number: |
| 9 | 4 | ? | ? | | | | | |
| 10 | 4 | 4 | ? | | | | | |
| 11 | 4 | 4 | 0 | | | | | |
| 12 | 4 | 4 | 0 | T | | | | |
| 13 | 4 | 4 | 0 | | | | T | |
| 14 | 4 | 4 | 1 | | | | | |
| 15 | 4 | 12 | 1 | | | | | |
| 13 | 4 | 12 | 1 | | | | T | |
| 14 | 4 | 12 | 2 | | | | | |
| 15 | 4 | 24 | 2 | | | | | |
| 13 | 4 | 24 | 2 | | | | T | |
| 14 | 4 | 24 | 3 | | | | | |
| 15 | 4 | 24 | 3 | | | | | |
| 13 | 4 | 24 | 3 | | | | F | |
| 16 | 4 | 24 | 3 | | | | | |
| 17 | 4 | 24 | 3 | | | | | 24 is factorial of 4 |

| # | x | F | y | x>0 | x==0 | Else(x<0) | y != (x-1) | Output |
|----|---|---|---|-----|------|-----------|------------|-------------------|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | ? | ? | ? | | | | | |
| 7 | ? | ? | ? | | | | | |
| 8 | ? | ? | ? | | | | | Enter the number: |
| 9 | 0 | ? | ? | | | | | |
| 10 | 0 | 0 | ? | | | | | |
| 11 | 0 | 0 | 0 | | | | | |
| 12 | 0 | 0 | 0 | F | | | | |
| 18 | 0 | 0 | 0 | | | | | |
| 19 | 0 | 0 | 0 | | T | | | |
| 20 | 0 | 0 | 0 | | | | | Factorial is 1. |

| # | x | F | y | x>0 | x==0 | Else(x<0) | y != (x-1) | Output |
|----|----|----|---|-----|------|-----------|------------|------------------------|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | ? | ? | ? | | | | | |
| 7 | ? | ? | ? | | | | | |
| 8 | ? | ? | ? | | | | | Enter the number: |
| 9 | -1 | ? | ? | | | | | |
| 10 | -1 | -1 | ? | | | | | |
| 11 | -1 | -1 | 0 | | | | | |
| 12 | -1 | -1 | 0 | F | | | | |
| 18 | -1 | -1 | 0 | | F | | | |
| 20 | -1 | -1 | 0 | | | | | |
| 20 | -1 | -1 | 0 | | | T | | |
| 21 | -1 | -1 | 0 | | | | | |
| 22 | -1 | -1 | 0 | | | | | Factorial not possible |
| 24 | -1 | -1 | 0 | | | | | |

1. //Task 15 I have split the series into two series. $S_2=5+7+9+11+\dots$ and $S_1= -10+15-20+25-\dots$
2. // Roll#: i19-0434 And used formulas of nth term for each. for Series2= $2n^2+3$
3. // Name: Sourav Malani and for series1= $(-1)^{n_1} * (5n_1+5)$
4. // Declare variables
5. Declare Real sum1, sum2, n1, n2, x, i //n1 and n2 represents number of terms.
6. Display "Enter x:" // x is the term no up to which user want sum.
7. Input x
8. set n1=0
9. set n2=0
10. set sum1=0
11. set sum2=0
12. For i=1 To x
13. If $i \% 2 == 0$ Then //If number is even.
14. set n1 = n1 + 1
15. set sum1 = $((-1)^{n_1}) * (5 * n_1 + 5) + \text{sum1}$ // $\text{sum1} = (-1)^{n_1} * (5n_1 + 5) + \text{sum1}$
16. Else
17. set n2 = n2 + 1
18. set sum2 = $2 * n_2^2 + 3 + \text{sum2}$ // $\text{sum2} = 2(n_2)^2 + 3 + \text{sum2}$
19. End If
20. End For
21. Display "Sum up to", x, "will be", sum1+sum2

| # | n1 | n2 | sum1 | sum2 | x | i = 1 To x (i) | $i \% 2 == 0$ | Output |
|----|----|----|------|------|---|----------------|---------------|-----------------------|
| 1 | ? | ? | ? | ? | ? | | | |
| 2 | ? | ? | ? | ? | ? | | | |
| 3 | ? | ? | ? | ? | ? | | | |
| 4 | ? | ? | ? | ? | ? | | | |
| 5 | ? | ? | ? | ? | ? | | | |
| 6 | ? | ? | ? | ? | ? | | | Enter x: |
| 7 | ? | ? | ? | ? | 3 | | | |
| 8 | 0 | ? | ? | ? | 3 | | | |
| 9 | 0 | 0 | ? | ? | 3 | | | |
| 10 | 0 | 0 | 0 | ? | 3 | | | |
| 11 | 0 | 0 | 0 | 0 | 3 | | | |
| 12 | 0 | 0 | 0 | 0 | 3 | 1 | | |
| 13 | 0 | 0 | 0 | 0 | 3 | 1 | F | |
| 16 | 0 | 0 | 0 | 0 | 3 | 1 | Else | |
| 17 | 0 | 1 | 0 | 0 | 3 | 1 | | |
| 18 | 0 | 1 | 0 | 5 | 3 | 1 | | |
| 12 | 0 | 1 | 0 | 5 | 3 | 2 | | |
| 13 | 0 | 1 | 0 | 5 | 3 | 2 | T | |
| 14 | 1 | 1 | 0 | 5 | 3 | 2 | | |
| 15 | 1 | 1 | -10 | 5 | 3 | 2 | | |
| 12 | 1 | 1 | -10 | 5 | 3 | 3 | | |
| 13 | 1 | 1 | -10 | 5 | 3 | 3 | F | |
| 16 | 1 | 1 | -10 | 5 | 3 | 3 | Else | |
| 17 | 1 | 2 | -10 | 5 | 3 | 3 | | |
| 18 | 1 | 2 | -10 | 12 | 3 | 3 | | |
| 19 | 1 | 2 | -10 | 12 | 3 | 3 | | |
| 20 | 1 | 2 | -10 | 12 | 3 | 3 | | |
| 21 | 1 | 2 | -10 | 12 | 3 | 3 | | Sum up to 3 will be 2 |

| # | n1 | n2 | sum1 | sum2 | x | i =1 To x (i) | i%2 ==0 | Output |
|----|----|----|------|------|---|---------------|---------|-----------------------|
| 1 | ? | ? | ? | ? | ? | | | |
| 2 | ? | ? | ? | ? | ? | | | |
| 3 | ? | ? | ? | ? | ? | | | |
| 4 | ? | ? | ? | ? | ? | | | |
| 5 | ? | ? | ? | ? | ? | | | |
| 6 | ? | ? | ? | ? | ? | | | Enter x: |
| 7 | ? | ? | ? | ? | 1 | | | |
| 8 | 0 | ? | ? | ? | 1 | | | |
| 9 | 0 | 0 | ? | ? | 1 | | | |
| 10 | 0 | 0 | 0 | ? | 1 | | | |
| 11 | 0 | 0 | 0 | 0 | 1 | | | |
| 12 | 0 | 0 | 0 | 0 | 1 | 1 | | |
| 13 | 0 | 0 | 0 | 0 | 1 | 1 | F | |
| 16 | 0 | 0 | 0 | 0 | 1 | 1 | Else | |
| 17 | 0 | 1 | 0 | 0 | 1 | 1 | | |
| 18 | 0 | 1 | 0 | 5 | 1 | 1 | | |
| 19 | 0 | 1 | 0 | 5 | 1 | 1 | | |
| 20 | 0 | 1 | 0 | 5 | 1 | | | |
| 21 | 1 | 1 | 0 | 5 | 1 | | | Sum up to 1 will be 5 |

| # | n1 | n2 | sum1 | sum2 | x | i =1 To x (i) | i%2 ==0 | Output |
|----|----|----|------|------|---|---------------|---------|------------------------|
| 1 | ? | ? | ? | ? | ? | | | |
| 2 | ? | ? | ? | ? | ? | | | |
| 3 | ? | ? | ? | ? | ? | | | |
| 4 | ? | ? | ? | ? | ? | | | |
| 5 | ? | ? | ? | ? | ? | | | |
| 6 | ? | ? | ? | ? | ? | | | Enter x: |
| 7 | ? | ? | ? | ? | 2 | | | |
| 8 | 0 | ? | ? | ? | 2 | | | |
| 9 | 0 | 0 | ? | ? | 2 | | | |
| 10 | 0 | 0 | 0 | ? | 2 | | | |
| 11 | 0 | 0 | 0 | 0 | 2 | | | |
| 12 | 0 | 0 | 0 | 0 | 2 | 1 | | |
| 13 | 0 | 0 | 0 | 0 | 2 | 1 | F | |
| 16 | 0 | 0 | 0 | 0 | 2 | 1 | Else | |
| 17 | 0 | 1 | 0 | 0 | 2 | 1 | | |
| 18 | 0 | 1 | 0 | 5 | 2 | 1 | | |
| 12 | 0 | 1 | 0 | 5 | 2 | 2 | | |
| 13 | 0 | 1 | 0 | 5 | 2 | 2 | T | |
| 14 | 1 | 1 | 0 | 5 | 2 | 2 | | |
| 15 | 1 | 1 | -10 | 5 | 2 | 2 | | |
| 19 | 1 | 1 | -10 | 5 | 2 | | | |
| 20 | 1 | 1 | -10 | 5 | 2 | | | |
| 21 | 1 | 1 | -10 | 5 | 2 | | | Sum up to 2 will be -5 |

1. //Task 16
2. //Roll#: i19-0434
3. //Name: Sourav Malani
4. Declare Real sales
5. set sales = 0 // setting sales initially to 0 for while loop to run first.
6. While sales >= 0
7. Display "Enter sales in rupees (negative value to exit): "
8. Input sales
9. If sales >= 0 Then /* In case user puts negative value in first attempt then line 10 will show salary, which we don't want, and then program will exit. So, I put this if statement here. */
10. Display "Salary is ", 2000+0.09*sales
11. End If
12. End While

| # | sales | While sales >=0 | If sales >=0 | Output |
|----|-------|-----------------|--------------|---|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | 0 | | | |
| 6 | 0 | T | | |
| 7 | 0 | | | Enter sales in rupees (negative value to exit): |
| 8 | -1 | | | |
| 9 | -1 | | F | |
| 10 | -1 | | | This line will not execute |
| 11 | -1 | | | |
| 12 | -1 | | | |

| # | sales | While sales >=0 | If sales >=0 | Output |
|----|-------|-----------------|--------------|---|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | 0 | | | |
| 6 | 0 | T | | |
| 7 | 0 | | | Enter sales in rupees (negative value to exit): |
| 8 | 50000 | | | |
| 9 | 50000 | | T | |
| 10 | 50000 | | | Salary is 4500 |
| 11 | 50000 | | | |
| 6 | 50000 | T | | |
| 7 | 50000 | | | Enter sales in rupees (negative value to exit): |
| 8 | 0 | | | |
| 9 | 0 | | T | |
| 10 | 0 | | | Salary is 2000 |
| 11 | 0 | | | |
| 6 | 0 | T | | |
| 7 | 0 | | | Enter sales in rupees (negative value to exit): |
| 8 | -1 | | | |
| 9 | -1 | | F | |
| 6 | -1 | F | | |
| 12 | -1 | | | |

| # | sales | While sales >=0 | If sales >=0 | Output |
|----|-------|-----------------|--------------|---|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | 0 | | | |
| 6 | 0 | T | | |
| 7 | 0 | | | Enter sales in rupees (negative value to exit): |
| 8 | 50000 | | | |
| 9 | 50000 | | T | |
| 10 | 50000 | | | Salary is 6500 |
| 11 | 50000 | | | |
| 6 | 50000 | T | | |
| 7 | 50000 | | | Enter sales in rupees (negative value to exit): |
| 8 | 60000 | | | |
| 9 | 60000 | | T | |
| 10 | 60000 | | | Salary is 7400 |
| 11 | 60000 | | | |
| 6 | 60000 | T | | |
| 7 | 60000 | | | Enter sales in rupees (negative value to exit): |
| 8 | 70000 | | | |
| 9 | 70000 | | T | |
| 10 | 70000 | | | Salary is 8300 |
| 11 | 70000 | | | |
| 6 | 70000 | T | | |
| 7 | 70000 | | | Enter sales in rupees (negative value to exit): |
| 8 | -1 | | | |
| 9 | -1 | | F | |
| 11 | -1 | | | |
| 6 | -1 | F | | |
| 12 | -1 | | | |

```

1. // Task 17
2. // Name: Sourav Malani
3. // Roll#: i19-0434
4. //Variables
5. Declare Real hrs, rate
6. set hrs=1
7. While hrs != -1
8.     Display "Enter the hourly rate: "
9.     Input rate
10.    Display "Enter the hours worked last week (-1 hours to end): "
11.    Input hrs
12.    If hrs>40 Then
13.        Display "Salary is ",40*rate+(hrs- 40) *rate*.5
14.    Else
15.        If hrs>0 Then
16.            Display "Salary is", hrs*rate
17.        End If
18.    End If
19. End While

```

| # | hrs | rate | While hrs=-1 | If hrs>40 | If hrs>0 | Output |
|----|-----|------|--------------|-----------|----------|---|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | 1 | ? | | | | |
| 7 | 1 | ? | T | | | |
| 8 | 1 | ? | | | | Enter the hourly rate: |
| 9 | 1 | 100 | | | | |
| 10 | 1 | 100 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | 41 | 100 | | | | |
| 12 | 41 | 100 | | T | | |
| 13 | 41 | 100 | | | | Salary is 4050 |
| 18 | 41 | 100 | | | | |
| 7 | 41 | 100 | T | | | |
| 8 | 41 | 100 | | | | Enter the hourly rate: |
| 9 | 41 | 500 | | | | |
| 10 | 41 | 500 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | 10 | 500 | | | | |
| 12 | 10 | 500 | | F | | |
| 14 | 10 | 500 | | | | |
| 15 | 10 | 500 | | | T | |
| 16 | 10 | 500 | | | | Salary is 5000 |
| 18 | 10 | 500 | | | | |
| 7 | 10 | 500 | T | | | |
| 8 | 10 | 500 | | | | Enter the hourly rate: |
| 9 | 10 | 100 | | | | |
| 10 | 10 | 100 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | -1 | 100 | | | | |
| 12 | -1 | 100 | | F | | |
| 15 | -1 | -1 | | | F | |
| 7 | -1 | -1 | F | | | |

| | | | | | | |
|----|----|----|--|--|--|--|
| 19 | -1 | -1 | | | | |
|----|----|----|--|--|--|--|

| # | hrs | rate | While hrs =-1 | If hrs>40 | If hrs>0 | Output |
|----|-----|------|------------------|--------------|-------------|---|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | 1 | ? | | | | |
| 7 | 1 | ? | T | | | |
| 8 | 1 | ? | | | | Enter the hourly rate: |
| 9 | 1 | 4 | | | | |
| 10 | 1 | 4 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | -1 | 4 | | | | |
| 12 | -1 | 4 | | F | | |
| 15 | -1 | 4 | | | F | |
| 18 | -1 | 4 | | | | |
| 7 | -1 | 4 | F | | | |
| 19 | -1 | 4 | | | | |

| # | hrs | rate | While hrs =-1 | If hrs>40 | If hrs>0 | Output |
|----|-----|------|------------------|--------------|-------------|---|
| 1 | ? | ? | | | | |
| 2 | ? | ? | | | | |
| 3 | ? | ? | | | | |
| 4 | ? | ? | | | | |
| 5 | ? | ? | | | | |
| 6 | 1 | ? | | | | |
| 7 | 1 | ? | T | | | |
| 8 | 1 | ? | | | | Enter the hourly rate: |
| 9 | 1 | 8 | | | | |
| 10 | 1 | 8 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | 9 | 8 | | | | |
| 12 | 9 | 8 | | F | | |
| 15 | 9 | 8 | | | T | |
| 16 | 9 | 8 | | | | Salary is 72 |
| 17 | 9 | 8 | | | | |
| 7 | 9 | 8 | T | | | |
| 8 | 9 | 8 | | | | Enter the hourly rate: |
| 9 | 9 | 4 | | | | |
| 10 | 9 | 4 | | | | Enter the hours worked last week (-1 hours to end): |
| 11 | -1 | 4 | | | | |
| 12 | -1 | 4 | | F | | |
| 15 | -1 | 4 | | | F | |
| 7 | -1 | 4 | F | | | |
| 19 | -1 | 4 | | | | |

1. //Task 18
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. //Declare variables
5. Declare Integer number, largest
6. set largest = 0
7. set number = 1
8. **While** number>=0
9. Display "Enter # of units sold (negative value to exit): "
10. Input number
11. **If** number >= largest Then
12. set largest = number
13. **End If**
14. **End While**
15. Display "The largest number of units sold of all is", largest

Dry Run 01

| # | number | Large st | number>=0 | number>=largest | Output |
|----|--------|-------------|-----------|-----------------|---|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | 0 | | | |
| 7 | 1 | 0 | | | |
| 8 | 1 | 0 | T | | |
| 9 | 1 | 0 | | | Enter # of units sold (negative value to exit): |
| 10 | 45000 | 0 | | | |
| 11 | 45000 | 0 | | T | |
| 12 | 45000 | 45000 | | | |
| 13 | 45000 | 45000 | | | |
| 8 | 45000 | 45000 | T | | |
| 9 | 45000 | 45000 | | | Enter # of units sold (negative value to exit): |
| 10 | 50000 | 45000 | | | |
| 11 | 50000 | 45000 | | T | |
| 12 | 50000 | 50000 | | | |
| 13 | 50000 | 50000 | | | |
| 8 | 50000 | 50000 | T | | |
| 9 | 50000 | 50000 | | | Enter # of units sold (negative value to exit): |
| 10 | -1 | 50000 | | | |
| 11 | -1 | 50000 | | F | |
| 8 | -1 | 50000 | F | | |
| 14 | -1 | 50000 | | | |
| 15 | -1 | 50000 | | | The largest number of units sold of all is 50000 |

Dry Run 02

| # | number | Large st | number>=0 | number>=largest | Output |
|----|--------|-------------|-----------|-----------------|---|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | 0 | | | |
| 7 | 1 | 0 | | | |
| 8 | 1 | 0 | T | | |
| 9 | 1 | 0 | | | Enter # of units sold (negative value to exit): |
| 10 | 50 | 0 | | | |
| 11 | 50 | 0 | | T | |
| 12 | 50 | 50 | | | |
| 13 | 50 | 50 | | | |
| 8 | 50 | 50 | T | | |
| 9 | 50 | 50 | | | Enter # of units sold (negative value to exit): |
| 10 | 40 | 50 | | | |
| 11 | 40 | 50 | | F | |
| 13 | 40 | 50 | | | |
| 8 | 40 | 50 | T | | |
| 9 | 40 | 50 | | | Enter # of units sold (negative value to exit): |
| 10 | -1 | 50 | | | |
| 11 | -1 | 50 | | F | |
| 8 | -1 | 50 | F | | |
| 14 | -1 | 50 | | | |
| 15 | -1 | 50 | | | The largest number of units sold of all is 50 |

Dry Run 03 (In this dry run I want to show that if I input a negative number in 1st attempt then program, will show 0 as the largest # of unit sold).

| # | number | Large st | number>=0 | number>=largest | Output |
|----|--------|-------------|-----------|-----------------|---|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | |
| 6 | ? | 0 | | | |
| 7 | 1 | 0 | | | |
| 8 | 1 | 0 | T | | |
| 9 | 1 | 0 | | | Enter # of units sold (negative value to exit): |
| 10 | -1 | 0 | | | |
| 11 | -1 | 0 | | F | |
| 13 | -1 | 0 | | | |
| 8 | -1 | 0 | F | | |
| 14 | -1 | 0 | | | |
| 15 | -1 | 0 | | | The largest number of units sold of all is 0 |

```

1. //Task 19
2. //Roll#: i19-0434
3. //Name: Sourav Malani
4. //Declare variables
5. Declare Integer number, largest, secondlarge
6. set number = 1
7. set largest = 0
8. set secondlarge = 0
9. While number >= 0
10.     Display "Enter # of units sold (negative value to exit): "
11.     Input number
12.     If number >= largest Then
13.         set secondlarge = largest //storing number that was largest to another variable.
14.         set largest = number
15.     Else
16.         If number < largest Then
17.             If number > secondlarge Then
18.                 secondlarge = number
19.             End If
20.         End If
21.     End If
22. End While
23. Display "The largest number of units sold of all is", largest
24. Display "Second largest is", secondlarge

```

#Dry run 1

| # | number | largest | secondlarge | number >= 0 | number >= largest | number < largest | number > secondlarge | Output |
|----|--------|---------|-------------|-------------|-------------------|------------------|----------------------|--|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | 1 | ? | ? | | | | | |
| 7 | 1 | 0 | ? | | | | | |
| 8 | 1 | 0 | 0 | | | | | |
| 9 | 1 | 0 | 0 | T | | | | |
| 10 | 1 | 0 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 45 | 0 | 0 | | | | | |
| 12 | 45 | 0 | 0 | | T | | | |
| 13 | 45 | 0 | 0 | | | | | |
| 14 | 45 | 45 | 0 | | | | | |
| 21 | 45 | 45 | 0 | | | | | |
| 9 | 45 | 45 | 0 | T | | | | |
| 10 | 45 | 45 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 40 | 45 | 0 | | | | | |
| 12 | 40 | 45 | 0 | | F | | | |
| 16 | 40 | 45 | 0 | | | T | | |
| 17 | 40 | 45 | 0 | | | | T | |
| 18 | 40 | 45 | 40 | | | | | |
| 21 | 40 | 45 | 40 | | | | | |
| 9 | 40 | 45 | 40 | T | | | | |

| | | | | | | | | |
|----|----|----|----|---|---|---|---|--|
| 10 | 40 | 45 | 40 | | | | | Enter # of units sold (negative value to exit): |
| 11 | -1 | 45 | 40 | | | | | |
| 12 | -1 | 45 | 40 | | F | | | |
| 16 | -1 | 45 | 40 | | | T | | |
| 17 | -1 | 45 | 40 | | | | F | |
| 19 | -1 | 45 | 40 | | | | | |
| 20 | -1 | 45 | 40 | | | | | |
| 9 | -1 | 45 | 40 | F | | | | |
| 22 | -1 | 45 | 40 | | | | | |
| 23 | -1 | 45 | 40 | | | | | The largest number of units sold of all is 45 |
| 24 | -1 | 45 | 40 | | | | | Second largest is 40 |

#Dry run 2

| # | number | largest | secondlarge | number>=0 | number >= largest | number < largest | number > secondlarge | Output |
|----|--------|---------|-------------|-----------|-------------------------|------------------------|-------------------------|--|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | 1 | ? | ? | | | | | |
| 7 | 1 | 0 | ? | | | | | |
| 8 | 1 | 0 | 0 | | | | | |
| 9 | 1 | 0 | 0 | T | | | | |
| 10 | 1 | 0 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 40 | 0 | 0 | | | | | |
| 12 | 40 | 0 | 0 | | T | | | |
| 13 | 40 | 0 | 0 | | | | | |
| 14 | 40 | 40 | 0 | | | | | |
| 21 | 40 | 40 | 0 | | | | | |
| 9 | 40 | 40 | 0 | T | | | | |
| 10 | 40 | 40 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 50 | 40 | 0 | | | | | |
| 12 | 50 | 40 | 0 | | T | | | |
| 13 | 50 | 40 | 40 | | | | | |
| 14 | 50 | 50 | 40 | | | | | |
| 9 | 50 | 50 | 40 | T | | | | |
| 10 | 40 | 50 | 40 | | | | | Enter # of units sold (negative value to exit): |
| 11 | -1 | 50 | 40 | | | | | |
| 12 | -1 | 50 | 40 | | F | | | |
| 16 | -1 | 50 | 40 | | | T | | |
| 17 | -1 | 50 | 40 | | | | F | |
| 21 | -1 | 50 | 40 | | | | | |
| 9 | -1 | 50 | 40 | F | | | | |
| 22 | -1 | 50 | 40 | | | | | |
| 23 | -1 | 50 | 40 | | | | | The largest number of units sold of all is 50 |
| 24 | -1 | 50 | 40 | | | | | Second largest is 40 |

#Dry run 3

| # | number | largest | secondlarge | number>=0 | number >= largest | number < largest | number > secondlarge | Output |
|----|--------|---------|-------------|-----------|-------------------------|------------------------|-------------------------|--|
| 1 | ? | ? | ? | | | | | |
| 2 | ? | ? | ? | | | | | |
| 3 | ? | ? | ? | | | | | |
| 4 | ? | ? | ? | | | | | |
| 5 | ? | ? | ? | | | | | |
| 6 | 1 | ? | ? | | | | | |
| 7 | 1 | 0 | ? | | | | | |
| 8 | 1 | 0 | 0 | | | | | |
| 9 | 1 | 0 | 0 | T | | | | |
| 10 | 1 | 0 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 10 | 0 | 0 | | | | | |
| 12 | 10 | 0 | 0 | | T | | | |
| 13 | 10 | 0 | 0 | | | | | |
| 14 | 10 | 10 | 0 | | | | | |
| 21 | 10 | 10 | 0 | | | | | |
| 9 | 10 | 10 | 0 | T | | | | |
| 10 | 10 | 10 | 0 | | | | | Enter # of units sold (negative value to exit): |
| 11 | 60 | 10 | 0 | | | | | |
| 12 | 60 | 10 | 0 | | T | | | |
| 13 | 60 | 10 | 10 | | | | | |
| 14 | 60 | 60 | 10 | | | | | |
| 9 | 60 | 60 | 10 | T | | | | |
| 10 | 60 | 60 | 10 | | | | | Enter # of units sold (negative value to exit): |
| 11 | -1 | 60 | 10 | | | | | |
| 12 | -1 | 60 | 10 | | F | | | |
| 16 | -1 | 60 | 10 | | | T | | |
| 17 | -1 | 60 | 10 | | | | F | |
| 21 | -1 | 60 | 10 | | | | | |
| 9 | -1 | 60 | 10 | F | | | | |
| 22 | -1 | 60 | 10 | | | | | |
| 23 | -1 | 60 | 10 | | | | | The largest number of units sold of all is 60 |
| 24 | -1 | 60 | 10 | | | | | Second largest is 10 |

1. //Task 20
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. //Declare Variables.
5. Declare Real N, F //N=No of gallons it can hold. F=It can be driven in full tank.
6. Display "Enter number of gallons it can hold: "
7. Input N
8. Display "Enter number of miles it can be driven in full tank:"
9. Input F
10. Display "The car's mileage is ", F/N

| # | N | F | Output |
|----|-----------|------------|--|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | |
| 6 | ? | ? | Enter number of gallons it can hold: |
| 7 | 60 | ? | |
| 8 | 60 | ? | Enter number of miles it can be driven in full tank: |
| 9 | 60 | 500 | |
| 10 | 60 | 500 | The car's mileage is 8.33 |

| # | N | F | Output |
|----|-----------|------------|--|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | |
| 6 | ? | ? | Enter number of gallons it can hold: |
| 7 | 70 | ? | |
| 8 | 70 | ? | Enter number of miles it can be driven in full tank: |
| 9 | 70 | 650 | |
| 10 | 70 | 650 | The car's mileage is 9.28 |

| # | N | F | Output |
|----|------------|-------------|--|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | |
| 6 | ? | ? | Enter number of gallons it can hold: |
| 7 | 100 | ? | |
| 8 | 100 | ? | Enter number of miles it can be driven in full tank: |
| 9 | 100 | 1100 | |
| 10 | 100 | 1100 | The car's mileage is 11 |

1. //Task 21
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Real total, counter, score
5. set total = 0
6. For counter = 1 To 5
7. Display "Enter score", counter, ":"
8. Input score
9. set total = total + score
10. End For
11. Display "Average is", total/5

| # | total | counter | score | Output |
|----|-------|---------|-------|----------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | 0 | ? | ? | |
| 6 | 0 | 1 | ? | |
| 7 | 0 | 1 | ? | Enter score 1: |
| 8 | 0 | 1 | 10 | |
| 9 | 10 | 1 | 10 | |
| 6 | 10 | 2 | 10 | |
| 7 | 10 | 2 | 10 | Enter score 2: |
| 8 | 10 | 2 | 20 | |
| 9 | 30 | 2 | 20 | |
| 6 | 30 | 3 | 20 | |
| 7 | 30 | 3 | 10 | Enter score 3: |
| 8 | 30 | 3 | 0 | |
| 9 | 30 | 3 | 0 | |
| 6 | 30 | 4 | 0 | |
| 7 | 30 | 4 | 0 | Enter score 4: |
| 8 | 30 | 4 | 5 | |
| 9 | 35 | 4 | 5 | |
| 6 | 35 | 5 | 5 | |
| 7 | 35 | 5 | 5 | Enter score 5: |
| 8 | 35 | 5 | 15 | |
| 9 | 50 | 5 | 15 | |
| 10 | 50 | 5 | 15 | |
| 11 | 50 | 5 | 15 | Average is 10 |

| # | total | counter | score | Output |
|----|-------|---------|-------|----------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | 0 | ? | ? | |
| 6 | 0 | 1 | ? | |
| 7 | 0 | 1 | ? | Enter score 1: |
| 8 | 0 | 1 | 45 | |
| 9 | 45 | 1 | 45 | |
| 6 | 45 | 2 | 45 | |
| 7 | 45 | 2 | 45 | Enter score 2: |
| 8 | 45 | 2 | 10 | |
| 9 | 55 | 2 | 10 | |
| 6 | 55 | 3 | 10 | |
| 7 | 55 | 3 | 10 | Enter score 3: |
| 8 | 55 | 3 | 0 | |
| 9 | 55 | 3 | 0 | |
| 6 | 55 | 4 | 0 | |
| 7 | 55 | 4 | 0 | Enter score 4: |
| 8 | 55 | 4 | 15 | |
| 9 | 70 | 4 | 15 | |
| 6 | 70 | 5 | 15 | |
| 7 | 70 | 5 | 15 | Enter score 5: |
| 8 | 70 | 5 | 30 | |
| 9 | 100 | 5 | 30 | |
| 10 | 100 | 5 | 30 | |
| 11 | 100 | 5 | 30 | Average is 20 |

| # | total | counter | score | Output |
|----|-------|---------|-------|----------------|
| 1 | ? | ? | ? | |
| 2 | ? | ? | ? | |
| 3 | ? | ? | ? | |
| 4 | ? | ? | ? | |
| 5 | 0 | ? | ? | |
| 6 | 0 | 1 | ? | |
| 7 | 0 | 1 | ? | Enter score 1: |
| 8 | 0 | 1 | 0 | |
| 9 | 0 | 1 | 0 | |
| 6 | 0 | 2 | 0 | |
| 7 | 0 | 2 | 0 | Enter score 2: |
| 8 | 0 | 2 | 0 | |
| 9 | 0 | 2 | 0 | |
| 6 | 0 | 3 | 0 | |
| 7 | 0 | 3 | 0 | Enter score 3: |
| 8 | 0 | 3 | 0 | |
| 9 | 0 | 3 | 0 | |
| 6 | 0 | 4 | 0 | |
| 7 | 0 | 4 | 0 | Enter score 4: |
| 8 | 0 | 4 | 0 | |
| 9 | 0 | 4 | 0 | |
| 6 | 0 | 5 | 0 | |
| 7 | 0 | 5 | 0 | Enter score 5: |
| 8 | 0 | 5 | 0 | |
| 9 | 0 | 5 | 0 | |
| 10 | 0 | 5 | 0 | |
| 11 | 0 | 5 | 0 | Average is 0 |

1. //Task 22
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. //Variables
5. Declare Real count, score, total
6. set count=0
7. set score=1
8. set total=0
9. While score>=0
10. Display “Enter the score:”
11. Input score
12. If score>=0 Then
13. set count = count+1
14. set total= total + score
15. End If
16. End While
17. If count>0 Then //In case user enters -ve number in 1st try
18. Display “Average of”, count, “scores is”, total/count
19. End If

| # | count | score | total | While score>=0 | If score>=0 | count>0 | Output |
|----|-------|-------|-------|----------------|-------------|---------|---------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | |
| 6 | 0 | ? | ? | | | | |
| 7 | 0 | 1 | ? | | | | |
| 8 | 0 | 1 | 0 | | | | |
| 9 | 0 | 1 | 0 | T | | | |
| 10 | 0 | 1 | 0 | | | | Enter the score: |
| 11 | 0 | 45 | 0 | | | | |
| 12 | 0 | 45 | 0 | | T | | |
| 13 | 1 | 45 | 0 | | | | |
| 14 | 1 | 45 | 45 | | | | |
| 9 | 1 | 45 | 45 | T | | | |
| 10 | 1 | 45 | 45 | | | | Enter the score: |
| 11 | 1 | 5 | 45 | | | | |
| 12 | 1 | 5 | 45 | | T | | |
| 13 | 2 | 5 | 45 | | | | |
| 14 | 2 | 5 | 50 | | | | |
| 9 | 2 | 5 | 50 | T | | | |
| 10 | 2 | 5 | 50 | | | | Enter the score: |
| 11 | 2 | -1 | 50 | | | | |
| 12 | 2 | -1 | 50 | | F | | |
| 9 | 2 | -1 | 50 | F | | | |
| 17 | 2 | -1 | 50 | | | T | |
| 18 | 2 | -1 | 50 | | | | Average of 2 scores is 25 |
| 19 | 2 | -1 | 50 | | | | |

| # | count | score | total | While score>=0 | If score>=0 | count>0 | Output |
|----|-------|-------|-------|----------------|-------------|---------|------------------|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | |
| 6 | 0 | | | | | | |
| 7 | 0 | 1 | | | | | |
| 8 | 0 | 1 | 0 | | | | |
| 9 | 0 | 1 | 0 | T | | | |
| 10 | 0 | 1 | 0 | | | | Enter the score: |
| 11 | 0 | -1 | 0 | | | | |
| 12 | 0 | -1 | 0 | | F | | |
| 9 | 0 | -1 | 0 | F | | | |
| 17 | 0 | -1 | 0 | | | F | |
| 19 | 0 | -1 | 0 | | | | |

| # | count | score | total | While score>=0 | If score>=0 | count>0 | Output |
|----|-------|-------|-------|----------------|-------------|---------|--------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | |
| 6 | 0 | ? | ? | | | | |
| 7 | 0 | 1 | ? | | | | |
| 8 | 0 | 1 | 0 | | | | |
| 9 | 0 | 1 | 0 | T | | | |
| 10 | 0 | 1 | 0 | | | | Enter the score: |
| 11 | 0 | 0 | 0 | | | | |
| 12 | 0 | 0 | 0 | | T | | |
| 13 | 1 | 0 | 0 | | | | |
| 14 | 1 | 0 | 0 | | | | |
| 9 | 1 | 0 | 0 | T | | | |
| 10 | 1 | 0 | 0 | | | | Enter the score: |
| 11 | 1 | 0 | 0 | | | | |
| 12 | 1 | 0 | 0 | | T | | |
| 13 | 2 | 0 | 0 | | | | |
| 14 | 2 | 0 | 0 | | | | |
| 9 | 2 | 0 | 0 | T | | | |
| 10 | 2 | 0 | 0 | | | | Enter the score: |
| 11 | 2 | -1 | 0 | | | | |
| 12 | 2 | -1 | 0 | | F | | |
| 9 | 2 | -1 | 0 | F | | | |
| 17 | 2 | -1 | 0 | | | T | |
| 18 | 2 | -1 | 0 | | | | Average of 2 scores is 0 |
| 19 | 2 | -1 | 0 | | | | |

1. //Task 23
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Integer cookies
5. /*Before we start, lets calculate no of calories in one cookie.
6. 40 cookies = 10 servings
7. 4 cookies = 1 serving
8. 4 cookies = 1 serving = 300 calorie.
9. Therefore 1 cookies = 75 calorie. */
10. Display "Enter the number of cookies you ate:"
11. Input cookies
12. If cookies<0 Then
13. Display "Invalid number of cookies. Try again."
14. Else
15. If cookies>40 Then
16. Display "Invalid number of cookies. Try again."
17. Else
18. Display "You consumed ",75*cookies, "calories"
19. End If
20. End If

| # | cookies | cookies<0 | cookies>40 | Output |
|----|---------|-----------|------------|--------------------------------------|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | ? | | | |
| 6 | ? | | | |
| 7 | ? | | | |
| 8 | ? | | | |
| 9 | ? | | | |
| 10 | ? | | | Enter the number of cookies you ate: |
| 11 | 30 | | | |
| 12 | 30 | F | | |
| 15 | 30 | | F | |
| 18 | 30 | | | You consumed 2250 calories |
| 19 | 30 | | | |
| 20 | 30 | | | |

| # | cookies | Cookies<0 | Cookies>40 | Output |
|----|---------|-----------|------------|---------------------------------------|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | ? | | | |
| 6 | ? | | | |
| 7 | ? | | | |
| 8 | ? | | | |
| 9 | ? | | | |
| 10 | ? | | | Enter the number of cookies you ate: |
| 11 | 44 | | | |
| 12 | 44 | F | | |
| 15 | 44 | | T | |
| 16 | 44 | | | Invalid number of cookies. Try again. |
| 20 | 44 | | | |

| # | cookies | Cookies<0 | Cookies>40 | Output |
|----|---------|-----------|------------|---------------------------------------|
| 1 | ? | | | |
| 2 | ? | | | |
| 3 | ? | | | |
| 4 | ? | | | |
| 5 | ? | | | |
| 6 | ? | | | |
| 7 | ? | | | |
| 8 | ? | | | |
| 9 | ? | | | |
| 10 | ? | | | Enter the number of cookies you ate: |
| 11 | -1 | | | |
| 12 | -1 | T | | |
| 13 | -1 | | | Invalid number of cookies. Try again. |
| 20 | -1 | | | |

1. //Task 24
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Real Celsius
5. Display "Enter Celsius to convert into Fahrenheit: "
6. Input Celsius
7. While Celsius < -273.15 //Minimum Celsius possible.
8. Display "Temperature conversion not possible, try again: "
9. Input Celsius
10. End While
11. Display "Temp in Fahrenheit is ", (1.8*Celsius+32)

| # | Celsius | Celsius < -273.15 | Output |
|----|---------|-------------------|---|
| 1 | ? | | |
| 2 | ? | | |
| 3 | ? | | |
| 4 | ? | | |
| 5 | ? | | Enter Celsius to convert into Fahrenheit: |
| 6 | 45 | | |
| 7 | 45 | F | |
| 11 | 45 | | Temp in Fahrenheit is 113 |

| # | Celsius | Celsius < -273.15 | Output |
|----|---------|-------------------|---|
| 1 | ? | | |
| 2 | ? | | |
| 3 | ? | | |
| 4 | ? | | |
| 5 | ? | | Enter Celsius to convert into Fahrenheit: |
| 6 | -300 | | |
| 7 | -300 | T | |
| 8 | -300 | | Temperature conversion not possible, try again: |
| 9 | 0 | | |
| 7 | 0 | F | |
| 11 | 0 | | Temp in Fahrenheit is 32 |

| # | Celsius | Celsius < -273.15 | Output |
|----|---------|-------------------|---|
| 1 | ? | | |
| 2 | ? | | |
| 3 | ? | | |
| 4 | ? | | |
| 5 | ? | | Enter Celsius to convert into Fahrenheit: |
| 6 | 100 | | |
| 7 | 100 | F | |
| 11 | 100 | | Temp in Fahrenheit is 212 |

1. //Task 25
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Real weight, height, BMI
5. Display "Enter your weight in pounds: "
6. Input weight
7. Display "Enter your height in inches: "
8. Input height
9. While height <=0
10. Display "Enter correct height (>0) in inches: "
11. Input height
12. End While
13. set BMI = weight*(703/height**2)
14. If BMI>25 Then
15. Display "you are overweight."
16. Else
17. If BMI >= 18.5 Then
18. Display "Your weight is optimal.",
19. Else
20. Display "You are underweight."
21. End If
22. End If

| # | weight | height | BMI | height<=0 | BMI>25 | BMI>=18.5 | Output |
|----|--------|--------|-------|-----------|--------|-----------|------------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | Enter your weight in pounds: |
| 6 | 132 | ? | ? | | | | |
| 7 | 132 | ? | ? | | | | Enter your height in inches: |
| 8 | 132 | 65 | ? | | | | |
| 9 | 132 | 65 | ? | F | | | |
| 13 | 132 | 65 | 21.96 | | | | |
| 14 | 132 | 65 | 21.96 | | F | | |
| 17 | 132 | 65 | 21.96 | | | T | |
| 18 | 132 | 65 | 21.96 | | | | Your weight is optimal. |
| 21 | 132 | 65 | 21.96 | | | | |
| 22 | 132 | 65 | 21.96 | | | | |

| # | weight | height | BMI | height<=0 | BMI>25 | BMI>=18.5 | Output |
|----|--------|--------|-------|-----------|--------|-----------|--------------------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | Enter your weight in pounds: |
| 6 | 160 | ? | ? | | | | |
| 7 | 160 | ? | ? | | | | Enter your height in inches: |
| 8 | 160 | -11 | ? | | | | |
| 9 | 160 | -11 | ? | T | | | |
| 10 | 160 | -11 | ? | | | | Enter correct height (>0) in inches: |
| 11 | 160 | 65 | ? | | | | |
| 12 | 160 | 65 | ? | | | | |
| 13 | 160 | 65 | 26.62 | | | | |
| 14 | 160 | 65 | 26.62 | | T | | |
| 15 | 160 | 65 | 26.62 | | | | you are overweight. |
| 21 | 160 | 65 | 26.62 | | | | |
| 22 | 160 | 65 | 26.62 | | | | |

| # | weight | height | BMI | height<=0 | BMI>25 | BMI>=18.5 | Output |
|----|--------|--------|--------|-----------|--------|-----------|------------------------------|
| 1 | ? | ? | ? | | | | |
| 2 | ? | ? | ? | | | | |
| 3 | ? | ? | ? | | | | |
| 4 | ? | ? | ? | | | | |
| 5 | ? | ? | ? | | | | Enter your weight in pounds: |
| 6 | 90 | ? | ? | | | | |
| 7 | 90 | ? | ? | | | | Enter your height in inches: |
| 8 | 90 | 60 | ? | | | | |
| 9 | 90 | 60 | ? | F | | | |
| 12 | 90 | 60 | ? | | | | |
| 13 | 90 | 60 | 17.575 | | | | |
| 14 | 90 | 60 | 17.575 | | F | | |
| 17 | 90 | 60 | 17.575 | | | F | |
| 20 | 90 | 65 | 17.575 | | | | You are underweight. |
| 22 | 90 | 65 | 17.575 | | | | |

```

1. //Task 26
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Integer units
5. Display "Enter number of units sold: "
6. Input units
7. While units<=0
8.     Display "Enter correct number of units sold (>0): "
9. End While
10. If units>=100 Then
11.     Display "The total cost of purchase is $", (units*99) *0.5
12. Else
13.     If units>=50 Then
14.         Display "The total cost of purchase is $", (units*99) * 0.6
15.     Else
16.         If units>=20 Then
17.             Display "The total cost of purchase is $", (units*99) *0.7
18.         Else
19.             If units>=10 Then
20.                 Display "The total cost of purchase is $", (units*99) *0.8
21.             Else
22.                 Display "The total cost of purchase is $", (units*99)
23.             End If
24.         End If
25.     End If
26. End If

```

| # | units | units<=0 | units>=100 | units>=50 | units>=20 | units>=10 | Output |
|----|-------|----------|------------|-----------|-----------|-----------|--------------------------------------|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | Enter number of units sold: |
| 6 | 110 | | | | | | |
| 7 | 110 | F | | | | | |
| 10 | 110 | | T | | | | |
| 11 | 110 | | | | | | The total cost of purchase is \$5445 |
| 26 | 110 | | | | | | |

| # | units | units<=0 | units>=100 | units>=50 | units>=20 | units>=10 | Output |
|----|-------|----------|------------|-----------|-----------|-----------|--------------------------------------|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | Enter number of units sold: |
| 6 | 55 | | | | | | |
| 7 | 55 | F | | | | | |
| 10 | 55 | | F | | | | |
| 13 | 55 | | | T | | | |
| 14 | 55 | | | | | | The total cost of purchase is \$3267 |
| 26 | 55 | | | | | | |

| # | units | units<=0 | units>=100 | units>=50 | units>=20 | units>=10 | Output |
|----|-------|----------|------------|-----------|-----------|-----------|--|
| 1 | ? | | | | | | |
| 2 | ? | | | | | | |
| 3 | ? | | | | | | |
| 4 | ? | | | | | | |
| 5 | ? | | | | | | Enter number of units sold: |
| 6 | -5 | | | | | | |
| 7 | -5 | T | | | | | |
| 8 | -5 | | | | | | Enter correct number of units sold (>0): |
| 9 | 100 | | | | | | |
| 10 | 100 | | T | | | | |
| 13 | 100 | | | | | | The total cost of purchase is \$3267 |
| 14 | 100 | | | | | | The total cost of purchase is \$4950 |
| 26 | 100 | | | | | | |

1. //Task 27
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Real length1, width1, length2, width2
5. Display "Enter the length of rectangle 1: "
6. Input length1
7. Display "Enter the width of rectangle 1: "
8. Input width1
9. Display "Enter the length of rectangle 2: "
10. Input length2
11. Display "Enter the width of rectangle 2: "
12. Input width2
13. If (length1*width1) == (length2*width2) Then
14. Display "Both rectangles have equal area."
15. Else
16. If (length1*width1)>(length2*width2) Then
17. Display "Rectangle 1 has greater area than that of rectangle 2."
18. Else
19. Display "Rectangle 2 has greater area than that of rectangle 1."
20. End If
21. End If

| # | length1 | width1 | length2 | width2 | (length1*width1) == (length2*width2) | (length1*width1) >(length2*width2) | Output |
|----|---------|--------|---------|--------|--|---------------------------------------|--|
| 1 | ? | ? | ? | ? | | | |
| 2 | ? | ? | ? | ? | | | |
| 3 | ? | ? | ? | ? | | | |
| 4 | ? | ? | ? | ? | | | |
| 5 | ? | ? | ? | ? | | | Enter the length of rectangle 1: |
| 6 | 12 | ? | ? | ? | | | |
| 7 | 12 | ? | ? | ? | | | Enter the width of rectangle 1: |
| 8 | 12 | 11 | ? | ? | | | |
| 9 | 12 | 11 | ? | ? | | | Enter the length of rectangle 2: |
| 10 | 12 | 11 | 13 | ? | | | |
| 11 | 12 | 11 | 13 | ? | | | Enter the width of rectangle 2: |
| 12 | 12 | 11 | 13 | 15 | | | |
| 13 | 12 | 11 | 13 | 15 | F | | |
| 16 | 12 | 11 | 13 | 15 | | F | |
| 19 | 12 | 11 | 13 | 15 | | | Rectangle 2 has greater area than that of rectangle 1. |
| 20 | 12 | 11 | 13 | 15 | | | |
| 21 | 12 | 11 | 13 | 15 | | | |

| # | length1 | width1 | length2 | width2 | (length1*width1) == (length2*width2) | (length1*width1) >(length2*width2) | Output |
|----|---------|--------|---------|--------|--|---------------------------------------|----------------------------------|
| 1 | ? | ? | ? | ? | | | |
| 2 | ? | ? | ? | ? | | | |
| 3 | ? | ? | ? | ? | | | |
| 4 | ? | ? | ? | ? | | | |
| 5 | ? | ? | ? | ? | | | Enter the length of rectangle 1: |
| 6 | 12 | ? | ? | ? | | | |
| 7 | 12 | ? | ? | ? | | | Enter the width of rectangle 1: |
| 8 | 12 | 11 | ? | ? | | | |
| 9 | 12 | 11 | ? | ? | | | Enter the length of rectangle 2: |
| 10 | 12 | 11 | 11 | ? | | | |
| 11 | 12 | 11 | 11 | ? | | | Enter the width of rectangle 2: |
| 12 | 12 | 11 | 11 | 12 | | | |
| 13 | 12 | 11 | 11 | 12 | T | | |
| 14 | 12 | 11 | 11 | 12 | | | Both rectangles have equal area. |
| 21 | 12 | 11 | 11 | 12 | | | |

| # | length1 | width1 | length2 | width2 | (length1*width1) == (length2*width2) | (length1*width1) >(length2*width2) | Output |
|----|---------|--------|---------|--------|--|---------------------------------------|--|
| 1 | | | | | | | |
| 2 | | | | | | | |
| 3 | | | | | | | |
| 4 | | | | | | | |
| 5 | | | | | | | Enter the length of rectangle 1: |
| 6 | 45 | | | | | | |
| 7 | 45 | | | | | | Enter the width of rectangle 1: |
| 8 | 45 | 10 | | | | | |
| 9 | 45 | 10 | | | | | Enter the length of rectangle 2: |
| 10 | 45 | 10 | 11 | | | | |
| 11 | 45 | 10 | 11 | | | | Enter the width of rectangle 2: |
| 12 | 45 | 10 | 11 | 10 | | | |
| 13 | 45 | 10 | 11 | 10 | F | | |
| 16 | 45 | 10 | 11 | 10 | | T | |
| 17 | 45 | 10 | 11 | 10 | | | Rectangle 1 has greater area than that of rectangle 2. |
| 21 | 45 | 10 | 11 | 10 | | | |

1. //Task 28
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Real mass, weight
5. Display "Enter object's mass: "
6. Input mass
7. set weight =9.8 * mass
8. Display "Weight of the object is ", weight, " Newtons"
9. If weight>1000 Then
10. Display "The object is too heavy!"
11. Else
12. If weight<10 Then
13. Display "The object is too light."
14. End If
15. End If

| # | mass | weight | weight>1000 | weight<10 | Output |
|----|------|--------|-------------|-----------|------------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | Enter object's mass: |
| 6 | 10 | ? | | | |
| 7 | 10 | 98 | | | |
| 8 | 10 | 98 | | | Weight of the object is 98 Newtons |
| 9 | 10 | 98 | F | | |
| 11 | 10 | 98 | | | |
| 12 | 10 | 98 | | F | |
| 15 | 10 | 98 | | | |

| # | mass | weight | weight>1000 | weight<10 | Output |
|----|------|--------|-------------|-----------|--------------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | Enter object's mass: |
| 6 | 150 | ? | | | |
| 7 | 150 | 1470 | | | |
| 8 | 150 | 1470 | | | Weight of the object is 1470 Newtons |
| 9 | 150 | 1470 | T | | |
| 10 | 150 | 1470 | | | The object is too heavy! |
| 15 | 150 | 1470 | | | |

| # | mass | weight | weight>1000 | weight<10 | Output |
|----|------|--------|-------------|-----------|------------------------------------|
| 1 | ? | ? | | | |
| 2 | ? | ? | | | |
| 3 | ? | ? | | | |
| 4 | ? | ? | | | |
| 5 | ? | ? | | | Enter object's mass: |
| 6 | 1 | ? | | | |
| 7 | 1 | 9.8 | | | |
| 8 | 1 | 9.8 | | | Weight of the object is 98 Newtons |
| 9 | 1 | 9.8 | F | | |
| 11 | 1 | 9.8 | | | |
| 12 | 1 | 9.8 | | T | |
| 13 | 1 | 9.8 | | | The object is too light. |
| 15 | 1 | 9.8 | | | |

1. //Task 29
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare C, F // C for Celsius and F for Fahrenheit
5. Display "Celsius | Fahrenheit"
6. For C=0 To 20
7. set F=1.8*C+32
8. Display C, " | ", F
9. End For

** All dry runs of this program are requirements because there is no input. I added All three of them because of the requirements of 3 dry runs.*

| # | C | F | Output |
|---|----|------|----------------------|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | Celsius Fahrenheit |
| 6 | 0 | ? | |
| 7 | 0 | 32.0 | |
| 8 | 0 | 32.0 | 0 32.0 |
| 6 | 1 | 32.0 | |
| 7 | 1 | 33.8 | |
| 8 | 1 | 33.8 | 1 33.8 |
| 6 | 2 | 33.8 | |
| 7 | 2 | 35.6 | |
| 8 | 2 | 35.6 | 2 35.6 |
| 6 | 3 | 35.6 | |
| 7 | 3 | 37.4 | |
| 8 | 3 | 37.4 | 3 37.4 |
| 6 | 4 | 37.4 | |
| 7 | 4 | 39.2 | |
| 8 | 4 | 39.2 | 4 39.2 |
| 6 | 5 | 39.2 | |
| 7 | 5 | 41.0 | |
| 8 | 5 | 41.0 | 5 41.0 |
| 6 | 6 | 41.0 | |
| 7 | 6 | 42.8 | |
| 8 | 6 | 42.8 | 6 42.8 |
| 6 | 7 | 42.8 | |
| 7 | 7 | 44.6 | |
| 8 | 7 | 44.6 | 7 44.6 |
| 6 | 8 | 44.6 | |
| 7 | 8 | 46.4 | |
| 8 | 8 | 46.4 | 8 46.4 |
| 6 | 9 | 46.4 | |
| 7 | 9 | 48.2 | |
| 8 | 9 | 48.2 | 9 48.2 |
| 6 | 10 | 48.2 | |
| 7 | 10 | 50.0 | |
| 8 | 10 | 50.0 | 10 50.0 |
| 6 | 11 | 50.0 | |
| 7 | 11 | 51.8 | |
| 8 | 11 | 51.8 | 11 51.8 |
| 6 | 12 | 51.8 | |
| 7 | 12 | 53.6 | |
| 8 | 12 | 53.6 | 12 53.6 |
| 6 | 13 | 53.6 | |
| 7 | 13 | 55.4 | |
| 8 | 13 | 55.4 | 13 55.4 |
| 6 | 14 | 55.4 | |
| 7 | 14 | 57.2 | |
| 8 | 14 | 57.2 | 14 57.2 |
| 6 | 15 | 57.2 | |
| 7 | 15 | 59.0 | |
| 8 | 15 | 59.0 | 15 59.0 |
| 6 | 16 | 59.0 | |
| 7 | 16 | 60.8 | |
| 8 | 16 | 60.8 | 16 60.8 |
| 6 | 17 | 60.8 | |
| 7 | 17 | 62.6 | |
| 8 | 17 | 62.6 | 17 62.6 |
| 6 | 18 | 62.6 | |
| 7 | 18 | 64.4 | |
| 8 | 18 | 64.4 | 18 64.4 |
| 6 | 19 | 64.4 | |
| 7 | 19 | 66.2 | |
| 8 | 19 | 66.2 | 19 66.2 |
| 6 | 20 | 66.2 | |
| 7 | 20 | 68.0 | |
| 8 | 20 | 68.0 | 20 68.0 |
| 9 | 20 | 68.0 | |

| # | C | F | Output |
|---|----|------|----------------------|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | Celsius Fahrenheit |
| 6 | 0 | ? | |
| 7 | 0 | 32.0 | |
| 8 | 0 | 32.0 | 0 32.0 |
| 6 | 1 | 32.0 | |
| 7 | 1 | 33.8 | |
| 8 | 1 | 33.8 | 1 33.8 |
| 6 | 2 | 33.8 | |
| 7 | 2 | 35.6 | |
| 8 | 2 | 35.6 | 2 35.6 |
| 6 | 3 | 35.6 | |
| 7 | 3 | 37.4 | |
| 8 | 3 | 37.4 | 3 37.4 |
| 6 | 4 | 37.4 | |
| 7 | 4 | 39.2 | |
| 8 | 4 | 39.2 | 4 39.2 |
| 6 | 5 | 39.2 | |
| 7 | 5 | 41.0 | |
| 8 | 5 | 41.0 | 5 41.0 |
| 6 | 6 | 41.0 | |
| 7 | 6 | 42.8 | |
| 8 | 6 | 42.8 | 6 42.8 |
| 6 | 7 | 42.8 | |
| 7 | 7 | 44.6 | |
| 8 | 7 | 44.6 | 7 44.6 |
| 6 | 8 | 44.6 | |
| 7 | 8 | 46.4 | |
| 8 | 8 | 46.4 | 8 46.4 |
| 6 | 9 | 46.4 | |
| 7 | 9 | 48.2 | |
| 8 | 9 | 48.2 | 9 48.2 |
| 6 | 10 | 48.2 | |
| 7 | 10 | 50.0 | |
| 8 | 10 | 50.0 | 10 50.0 |
| 6 | 11 | 50.0 | |
| 7 | 11 | 51.8 | |
| 8 | 11 | 51.8 | 11 51.8 |
| 6 | 12 | 51.8 | |
| 7 | 12 | 53.6 | |
| 8 | 12 | 53.6 | 12 53.6 |
| 6 | 13 | 53.6 | |
| 7 | 13 | 55.4 | |
| 8 | 13 | 55.4 | 13 55.4 |
| 6 | 14 | 55.4 | |
| 7 | 14 | 57.2 | |
| 8 | 14 | 57.2 | 14 57.2 |
| 6 | 15 | 57.2 | |
| 7 | 15 | 59.0 | |
| 8 | 15 | 59.0 | 15 59.0 |
| 6 | 16 | 59.0 | |
| 7 | 16 | 60.8 | |
| 8 | 16 | 60.8 | 16 60.8 |
| 6 | 17 | 60.8 | |
| 7 | 17 | 62.6 | |
| 8 | 17 | 62.6 | 17 62.6 |
| 6 | 18 | 62.6 | |
| 7 | 18 | 64.4 | |
| 8 | 18 | 64.4 | 18 64.4 |
| 6 | 19 | 64.4 | |
| 7 | 19 | 66.2 | |
| 8 | 19 | 66.2 | 19 66.2 |
| 6 | 20 | 66.2 | |
| 7 | 20 | 68.0 | |

| # | C | F | Output |
|---|----|------|----------------------|
| 1 | ? | ? | |
| 2 | ? | ? | |
| 3 | ? | ? | |
| 4 | ? | ? | |
| 5 | ? | ? | Celsius Fahrenheit |
| 6 | 0 | ? | |
| 7 | 0 | 32.0 | |
| 8 | 0 | 32.0 | 0 32.0 |
| 6 | 1 | 32.0 | |
| 7 | 1 | 33.8 | |
| 8 | 1 | 33.8 | 1 33.8 |
| 6 | 2 | 33.8 | |
| 7 | 2 | 35.6 | |
| 8 | 2 | 35.6 | 2 35.6 |
| 6 | 3 | 35.6 | |
| 7 | 3 | 37.4 | |
| 8 | 3 | 37.4 | 3 37.4 |
| 6 | 4 | 37.4 | |
| 7 | 4 | 39.2 | |
| 8 | 4 | 39.2 | 4 39.2 |
| 6 | 5 | 39.2 | |
| 7 | 5 | 41.0 | |
| 8 | 5 | 41.0 | 5 41.0 |
| 6 | 6 | 41.0 | |
| 7 | 6 | 42.8 | |
| 8 | 6 | 42.8 | 6 42.8 |
| 6 | 7 | 42.8 | |
| 7 | 7 | 44.6 | |
| 8 | 7 | 44.6 | 7 44.6 |
| 6 | 8 | 44.6 | |
| 7 | 8 | 46.4 | |
| 8 | 8 | 46.4 | 8 46.4 |
| 6 | 9 | 46.4 | |
| 7 | 9 | 48.2 | |
| 8 | 9 | 48.2 | 9 48.2 |
| 6 | 10 | 48.2 | |
| 7 | 10 | 50.0 | |
| 8 | 10 | 50.0 | 10 50.0 |
| 6 | 11 | 50.0 | |
| 7 | 11 | 51.8 | |
| 8 | 11 | 51.8 | 11 51.8 |
| 6 | 12 | 51.8 | |
| 7 | 12 | 53.6 | |
| 8 | 12 | 53.6 | 12 53.6 |
| 6 | 13 | 53.6 | |
| 7 | 13 | 55.4 | |
| 8 | 13 | 55.4 | 13 55.4 |
| 6 | 14 | 55.4 | |
| 7 | 14 | 57.2 | |
| 8 | 14 | 57.2 | 14 57.2 |
| 6 | 15 | 57.2 | |
| 7 | 15 | 59.0 | |
| 8 | 15 | 59.0 | 15 59.0 |
| 6 | 16 | 59.0 | |
| 7 | 16 | 60.8 | |
| 8 | 16 | 60.8 | 16 60.8 |
| 6 | 17 | 60.8 | |
| 7 | 17 | 62.6 | |
| 8 | 17 | 62.6 | 17 62.6 |
| 6 | 18 | 62.6 | |
| 7 | 18 | 64.4 | |
| 8 | 18 | 64.4 | 18 64.4 |
| 6 | 19 | 64.4 | |
| 7 | 19 | 66.2 | |
| 8 | 19 | 66.2 | 19 66.2 |
| 6 | 20 | 66.2 | |
| 7 | 20 | 68.0 | |
| 8 | 20 | 68.0 | 20 68.0 |
| 9 | 20 | 68.0 | |

| | | | | |
|---|----|------|----|------|
| 8 | 20 | 68.0 | 20 | 68.0 |
| 9 | 20 | 68.0 | | |

1. //Task 30
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Integer store1, store2, store3, store4, store5, I, times, J
5. Display "Enter sales for store1:"
6. Input store1
7. Display "Enter sales for store2:"
8. Input store2
9. Display "Enter sales for store3:"
10. Input store3
11. Display "Enter sales for store4:"
12. Input store4
13. Display "Enter sales for store5:"
14. Input store5
15. Display "SALES BAR CHART (Each *=\$100)"
16. For I=1 To 5
17. DisplayOnSameLine "Store", I, ":"
18. If I==1 Then
19. set times = store1/100
20. Else
21. If I==2 Then
22. set times = store2/100
23. Else
24. If I==3 Then
25. set times = store3/100
26. Else
27. If I==4 Then
28. set times = store4/100
29. Else
30. If I==5 Then
31. set times = store5/100
32. End If
33. End If
34. End If
35. End If
36. End If
37. For J = 1 To times
38. DisplayOnSameLine " *"
39. End For
40. Display "" //New Line
41. End For

| # | store1 | store2 | store3 | store4 | store5 | I | times | J | I==1 | I==2 | I==3 | I==4 | I==5 | J = 1 | Output |
|----|--------|--------|--------|--------|--------|---|-------|---|------|------|------|------|------|-------|---|
| 1 | ? | ? | ? | ? | ? | ? | | | | | | | | | |
| 2 | ? | ? | ? | ? | ? | ? | | | | | | | | | |
| 3 | ? | ? | ? | ? | ? | ? | | | | | | | | | |
| 4 | ? | ? | ? | ? | ? | ? | | | | | | | | | |
| 5 | ? | ? | ? | ? | ? | ? | | | | | | | | | Enter sales for store1: |
| 6 | 100 | ? | ? | ? | ? | ? | | | | | | | | | |
| 7 | 100 | ? | ? | ? | ? | ? | | | | | | | | | Enter sales for store2: |
| 8 | 100 | 200 | ? | ? | ? | ? | | | | | | | | | |
| 9 | 100 | 200 | ? | ? | ? | ? | | | | | | | | | Enter sales for store3: |
| 10 | 100 | 200 | 100 | ? | ? | ? | | | | | | | | | |
| 11 | 100 | 200 | 100 | ? | ? | ? | | | | | | | | | Enter sales for store4: |
| 12 | 100 | 200 | 100 | 200 | ? | ? | | | | | | | | | |
| 13 | 100 | 200 | 100 | 200 | ? | ? | | | | | | | | | Enter sales for store5: |
| 14 | 100 | 200 | 100 | 200 | 100 | ? | | | | | | | | | |
| 15 | 100 | 200 | 100 | 200 | 100 | ? | | | | | | | | | SALES BAR CHART (Each *=\$100) |
| 16 | 100 | 200 | 100 | 200 | 100 | 1 | | | | | | | | | |
| 17 | 100 | 200 | 100 | 200 | 100 | 1 | | | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: |
| 18 | 100 | 200 | 100 | 200 | 100 | 1 | | | T | | | | | | |
| 19 | 100 | 200 | 100 | 200 | 100 | 1 | 1 | | | | | | | | |
| 36 | 100 | 200 | 100 | 200 | 100 | 1 | 1 | | | | | | | | |
| 37 | 100 | 200 | 100 | 200 | 100 | 1 | 1 | 1 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 1 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * |
| 40 | 100 | 200 | 100 | 200 | 100 | 1 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * //New line |
| 16 | 100 | 200 | 100 | 200 | 100 | 2 | 1 | ? | | | | | | | |
| 17 | 100 | 200 | 100 | 200 | 100 | 2 | 1 | ? | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: |
| 18 | 100 | 200 | 100 | 200 | 100 | 2 | 1 | ? | F | | | | | | |
| 21 | 100 | 200 | 100 | 200 | 100 | 2 | 1 | 1 | | T | | | | | |
| 22 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | ? | | | | | | | |
| 36 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | ? | | | | | | | |
| 37 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | 1 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * |
| 37 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | 2 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | 2 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * |
| 40 | 100 | 200 | 100 | 200 | 100 | 2 | 2 | 2 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * //New line |
| 16 | 100 | 200 | 100 | 200 | 100 | 3 | 2 | ? | | | | | | | |
| 17 | 100 | 200 | 100 | 200 | 100 | 3 | 2 | ? | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: |
| 18 | 100 | 200 | 100 | 200 | 100 | 3 | 2 | ? | F | | | | | | |
| 21 | 100 | 200 | 100 | 200 | 100 | 3 | 2 | ? | | F | | | | | |
| 24 | 100 | 200 | 100 | 200 | 100 | 3 | 2 | ? | | | T | | | | |
| 25 | 100 | 200 | 100 | 200 | 100 | 3 | 1 | ? | | | | | | | |

| | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|---|---|---|---|---|---|---|---|--|---|
| 37 | 100 | 200 | 100 | 200 | 100 | 3 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * |
| 38 | 100 | 200 | 100 | 200 | 100 | 3 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * |
| 40 | 100 | 200 | 100 | 200 | 100 | 3 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * |
| 16 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | | | | | | | //New line |
| 17 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * Store 4: |
| 18 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | F | | | | | | |
| 21 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | | F | | | | | |
| 24 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | | | F | | | | |
| 27 | 100 | 200 | 100 | 200 | 100 | 4 | 1 | ? | | | | T | | | |
| 28 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | ? | | | | | | | |
| 37 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | 1 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * Store 4: * |
| 37 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | 2 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | 2 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * Store 4: * * |
| 40 | 100 | 200 | 100 | 200 | 100 | 4 | 2 | 2 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * Store 4: * * |
| 16 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | | | | | | //New line |
| 17 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * Store 2: * * Store 3: * Store 4: * * Store 5: |
| 18 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | F | | | | | | |
| 21 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | F | | | | | |
| 24 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | | F | | | | |
| 27 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | | | F | | | |
| 30 | 100 | 200 | 100 | 200 | 100 | 5 | 2 | ? | | | | | T | | |
| 31 | 100 | 200 | 100 | 200 | 100 | 5 | 1 | ? | | | | | | | |
| 37 | 100 | 200 | 100 | 200 | 100 | 5 | 1 | 1 | | | | | | | |
| 38 | 100 | 200 | 100 | 200 | 100 | 5 | 1 | 1 | | | | | | | SALES BAR CHART (Each *=\$100) Store 1: * |

| | | | | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|---|---|---|--|--|--|--|--|--|--|
| | | | | | | | | | | | | | | | Store 2: * * |
| | | | | | | | | | | | | | | | Store 3: * |
| | | | | | | | | | | | | | | | Store 4: * * |
| | | | | | | | | | | | | | | | Store 5: * |
| 40 | 100 | 200 | 100 | 200 | 100 | 5 | 1 | 1 | | | | | | | SALES BAR CHART (Each *= \$100) Store 1: * Store 2: * * Store 3: * Store 4: * * Store 5: * |
| 41 | 100 | 200 | 100 | 200 | 100 | 5 | 1 | 1 | | | | | | | |

1. //Task 31
2. //Name: Sourav Malani
3. //Roll#: i19-0434
4. Declare Integer P00, P20, P40, P60, P80, P2K, I //I is for counter
5. /*P represents population and number represents year. i.e. P20=population of 1950.
6. P2K = Population of 2000(2k) */
7. Display "Enter population of 1900:"
8. Input P00
9. Display "Enter population of 1920:"
10. Input P20
11. Display "Enter population of 1940:"
12. Input P40
13. Display "Enter population of 1960:"
14. Input P60
15. Display "Enter population of 1980:"
16. Input P80
17. Display "Enter population of 2000:"
18. Input P2K
19. //Start of the chart.
20. Display "PRAIRIEVILLE POPULATION GROWTH (each * represents 1,000 people) "
21. DisplayOnSameLine "1900" //P00
22. For I =1 To (P00/1000)
23. DisplayOnSameLine "*"
24. End For
25. Display " " //Newline
26. DisplayOnSameLine "1920" //P20
27. For I =1 To (P20/1000)
28. DisplayOnSameLine "*"
29. End For
30. Display " " //Newline
31. DisplayOnSameLine "1940" //P40
32. For I =1 To (P40/1000)
33. DisplayOnSameLine "*"
34. End For
35. Display " " //Newline
36. DisplayOnSameLine "1960" //P60
37. For I =1 To (P60/1000)
38. DisplayOnSameLine "*"
39. End For
40. Display " " //Newline
41. DisplayOnSameLine "1980" //P80
42. For I =1 To (P80/1000)
43. DisplayOnSameLine "*"
44. End For
45. Display " " //Newline
46. DisplayOnSameLine "2000" //P2K
47. For I =1 To (P2K/1000)
48. DisplayOnSameLine "*"
49. End For
50. Display " " //Newline

Dry run of this Problem is just like previous problem so I did not make it because its long and contains too many variables and conditions. So, I am showing the output for different inputs.

#1

P00 =1000, P20 =5000, P40 = 6000, P60 = 7000, P80 = 8000, P2K = 10000

PRAIRIEVILLE POPULATION GROWTH (each * represents 1,000 people)

1900 *

1920 *****

1940 *****

1960 *****

1980 *****

2000 *****

#2

P00 =10000, P20 =9000, P40 = 8000, P60 = 7000, P80 = 6000, P2K = 5000

PRAIRIEVILLE POPULATION GROWTH (each * represents 1,000 people)

1900 *****

1920 *****

1940 *****

1960 *****

1980 *****

2000 *****

#3

P00 =6000, P20 =5000, P40 = 4000, P60 = 3000, P80 = 2000, P2K = 1000

PRAIRIEVILLE POPULATION GROWTH (each * represents 1,000 people)

1900 *****

1920 *****

1940 *****

1960 *****

1980 *****

2000 *****