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SECTION: C

DEPTT.: DCSE

CF ASSIGNMENT 5

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QUESTION # 1

Part (a)

Ans: **PSEUDOCODE :-**

```
Prompt the user to enter an integer num1
READ num1

Prompt the user to enter an integer num2
READ num2

IF mod of num1 by num2 is equal to 0
    DISPLAY Multiple
ELSE
    DISPLAY Not Multiple
ENDIF
```

OUTPUT OF PROGRAM :-

For num1 = 5 and num2 = 4

The modulus of num1 by num2 is not equal to zero. Hence the output of program will be "Not Multiple".

OUTPUT : Not Multiple

Part (b)

PSEUDOCODE :-

```
Prompt the user to enter an integer num1
READ num1

Prompt the user to enter an integer num2
```

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READ num2

SET integer result as 1

FOR integer i equals 1 to num2
    SET result equals to result multiplied by num1
END FOR
DISPLAY result

OUTPUT OF PROGRAM:-

FOR num1 = 5 and num2 = 4

As num2 = 4, the iteration bound for for loop is set to 4. So there will be 4 iterations in the for loop.

1st Iteration:-

In the 1st iteration of for loop, num1 = 5 and result = 1, So the new value of result will be $\boxed{5}$.

2nd Iteration:-

In the second iteration of for loop, num1 = 5 and result = 5, So, the new value of result will be 5x5 = $\boxed{25}$

3rd Iteration:-

In the third iteration of for loop, num1 = 5 and result = 25, So the new value of result will be 25 x 5 = $\boxed{125}$

4th Iteration:-

In the fourth iteration of for loop, num1 = 5 and result = 125, So, the new value of result will be 125 x 5 = $\boxed{625}$

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FINAL OUTPUT :-

After 4 consecutive iterations in for loop, the new value of result will be 625.

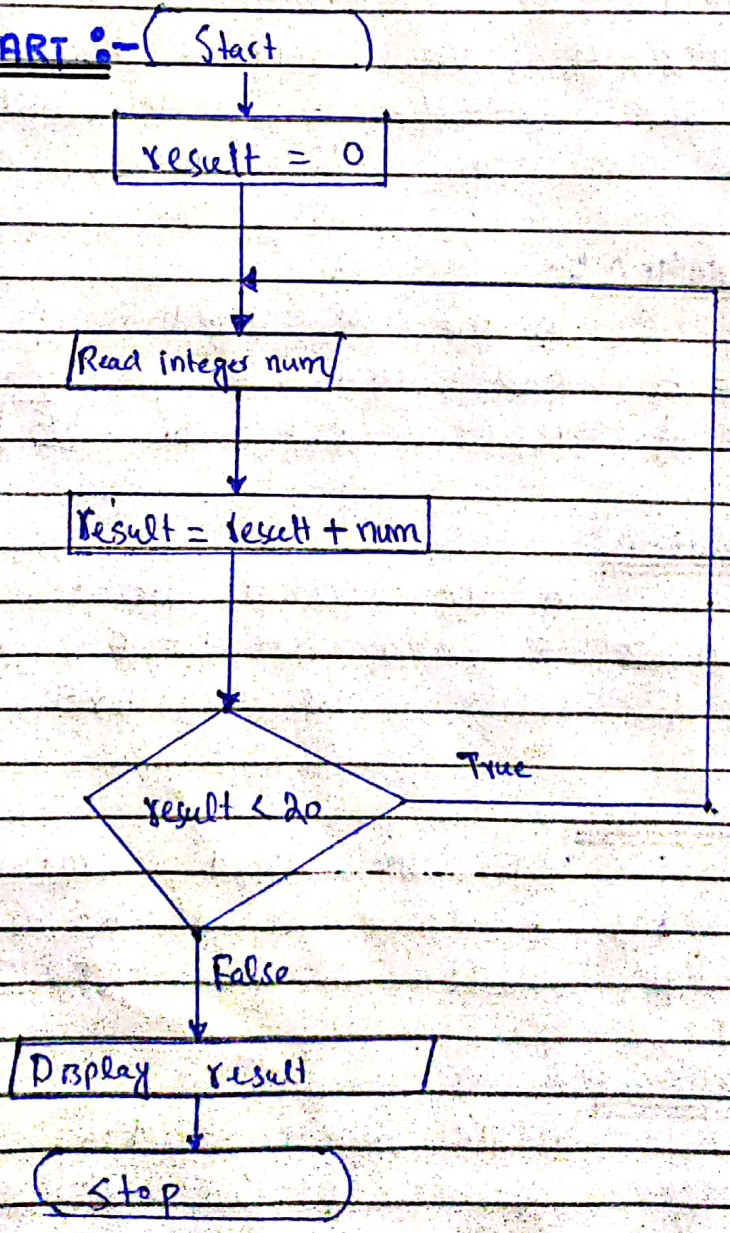
OUTPUT : 625

QUESTION #2

Part (a) :-

Ans:

FLOW CHART :-



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Output of Program :-

For successive 3 inputs 7, 8 and 9, the Do-while loop will run 3 iterations.

1st Iteration :-

In 1st iteration, num = 7, so result = 0 + 7 = $\boxed{7}$. The condition of while is satisfied and hence there will be 2nd iteration of do-while loop.

2nd Iteration :-

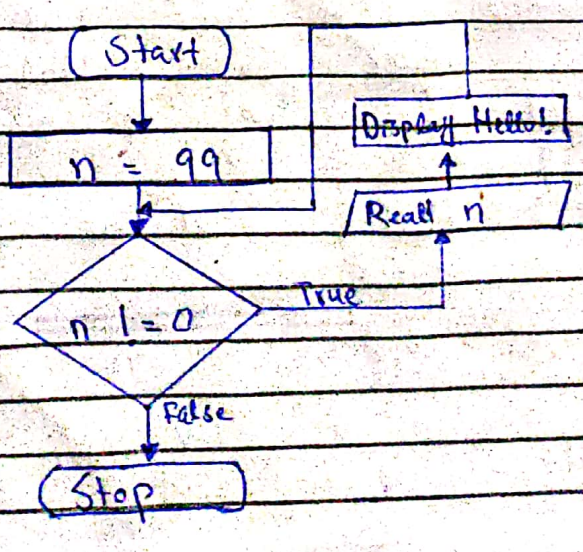
In 2nd iteration, num = 8 and result = 7. So, result = 8 + 7 = $\boxed{15}$. The condition of while is satisfied and hence there will be 3rd iteration.

3rd Iteration :-

In 3rd iteration, num = 9 and result = 15. So, result = 15 + 9 = $\boxed{24}$. The condition of while is not satisfied as 24 ≮ 20. Hence the loop will break and result will be displayed.

Output: 24

Part (b) :-



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Output of Program:-

For 4 inputs, 3, 2, 1, and 0, there will be 4 iterations in the while loop.

1st Iteration:-

In 1st iteration, $n = 3 \neq 0$. So the body of while loop will be executed and "Hello!" will be displayed for 1st time.

2nd Iteration:-

In 2nd iteration, $n = 2 \neq 0$. So, the body of while loop will be executed and "Hello!" will be displayed for 2nd time.

3rd Iteration:-

In 3rd iteration, $n = 1 \neq 0$, the body of while loop will be executed and "Hello!" will be displayed for 3rd time.

4th Iteration:-

In 4th iteration, $n = 0$, the body of while loop will be executed for the last time and the loop will break. So "Hello!" will be displayed for the 4th and last time.

Final Result

Output:- Hello! will be displayed 4 times.

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