

> Week 1 :- Assignments.

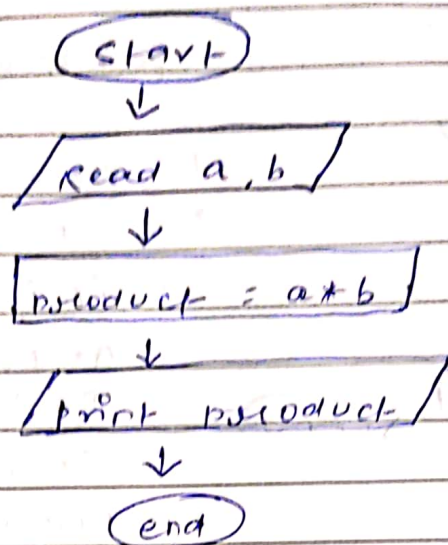
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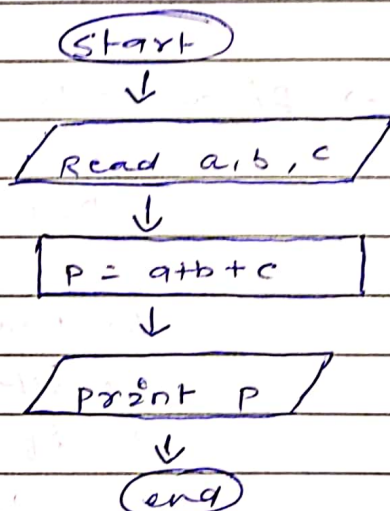
Flowcharts Q1 → Multiple of two numbers.



pseudocode.

1. Read a & b
2. $product = a * b$
3. Print product.

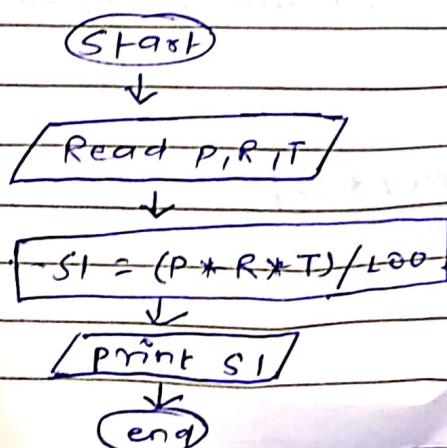
Flowchart Q2 → Find perimeter of a Triangle.



pseudocode.

1. Read a, b & c.
2. $p = a + b + c$
3. print p.

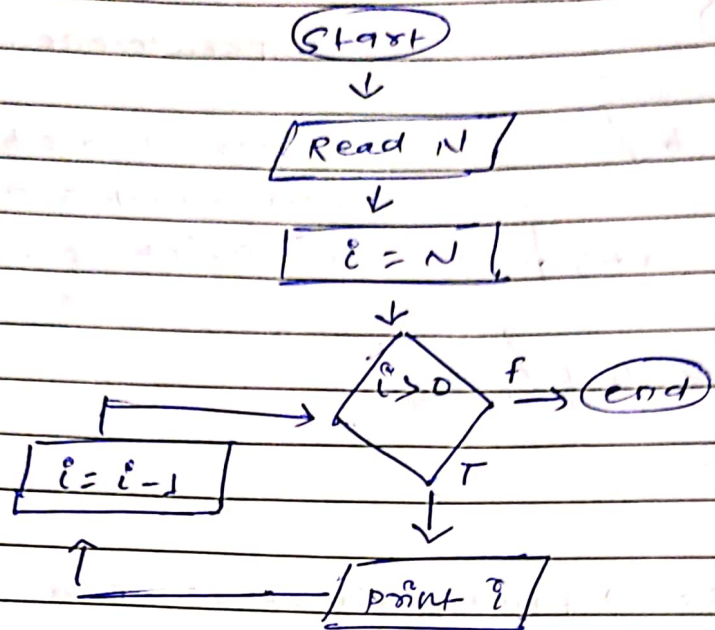
Flowchart Q3 →



pseudocode.

1. Read P, R & T
2. $SI = (P * R * T) / 100$
3. print SI.

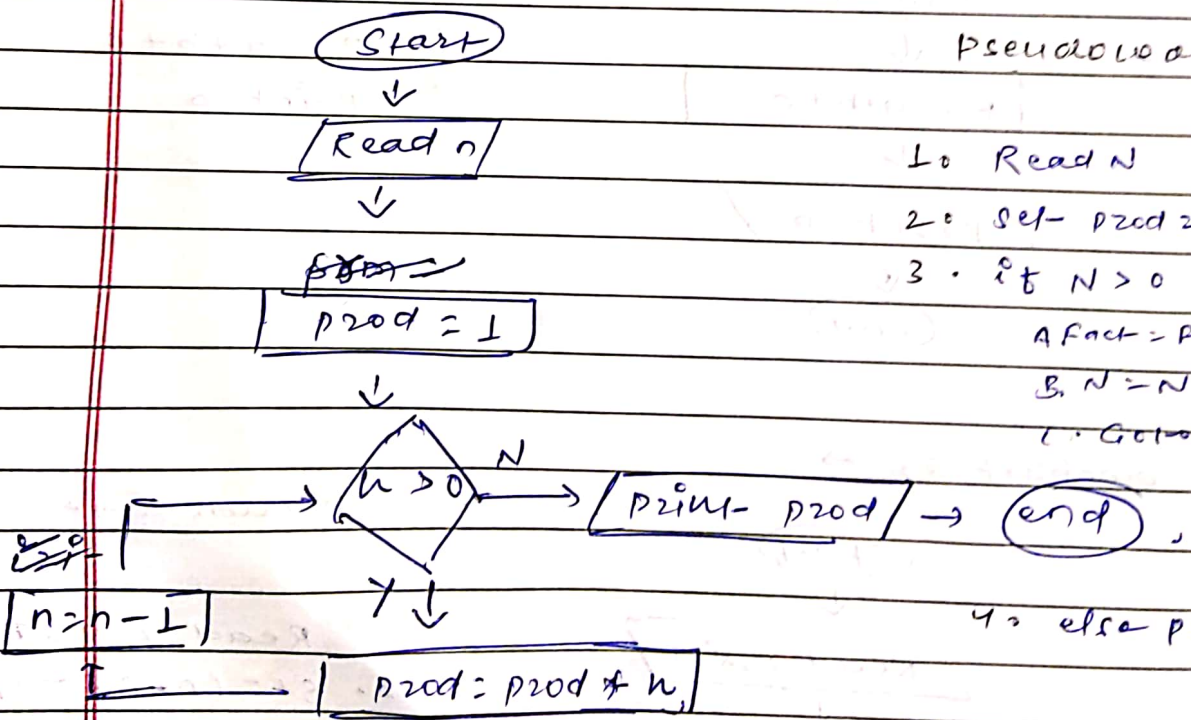
► flowchart Q4 → print counting from 1 to N



pseudocode.

1. Read N
2. Set $i = N$
3. If $i > 0$
 - A. print i
 - B. $i = i - 1$
 - C. Goto 3.
4. Else stop.

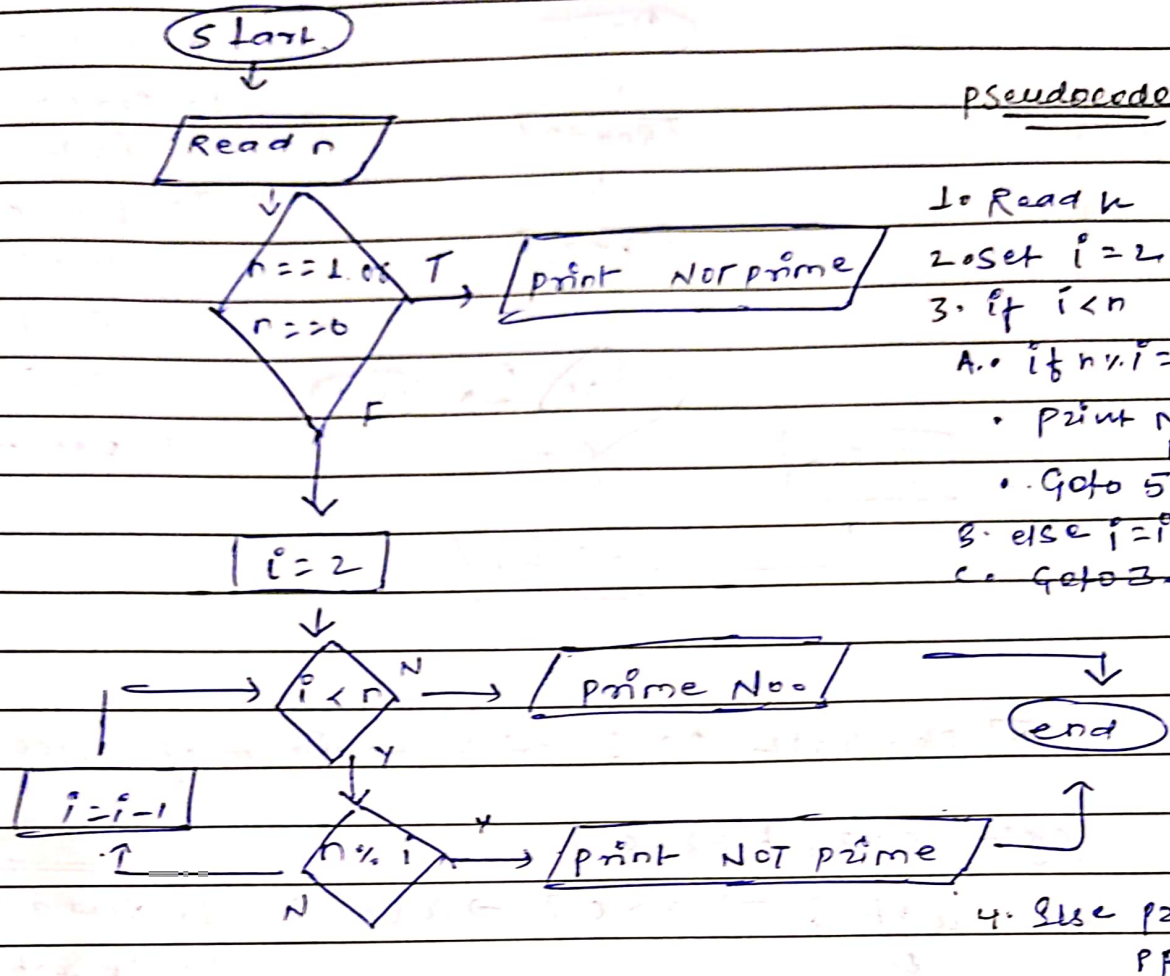
► flowchart Q5 → find factorial of a Number



pseudocode.

1. Read N
2. Set $prod = 1$
3. If $N > 0$
 - A. $Fact = Fact * n$
 - B. $N = N - 1$
 - C. Goto 3
4. else print $prod$

► flowchart Q6 → Check a number is prime or Not.



pseudocode.

1. Read n
2. Set $i = 2$
3. If $i < n$
 - A. If $n \% i = 0$
 - Print Not prime.
 - Goto 5
 - B. Else $i = i + 1$
 - C. Goto 3.
4. Else print prime
5. End.

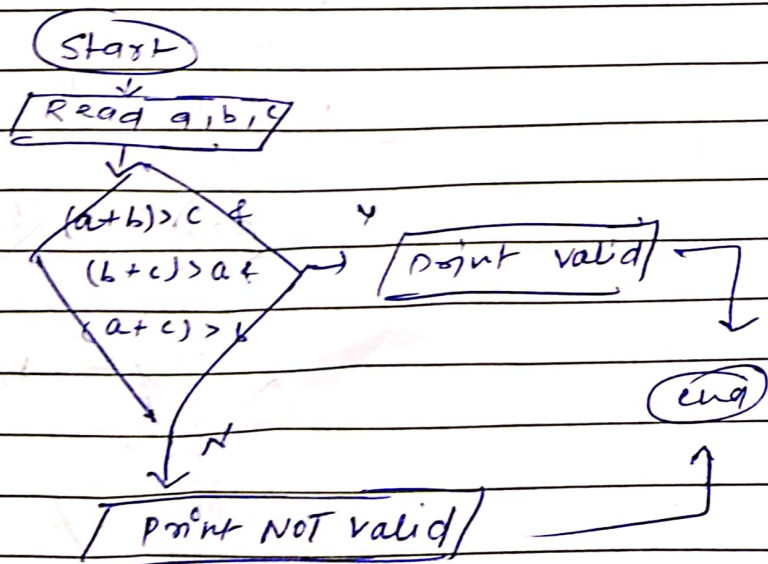
► flowchart Q7 → Check given Triangle is valid or NOT.

Mathematically → If two sides > other side.

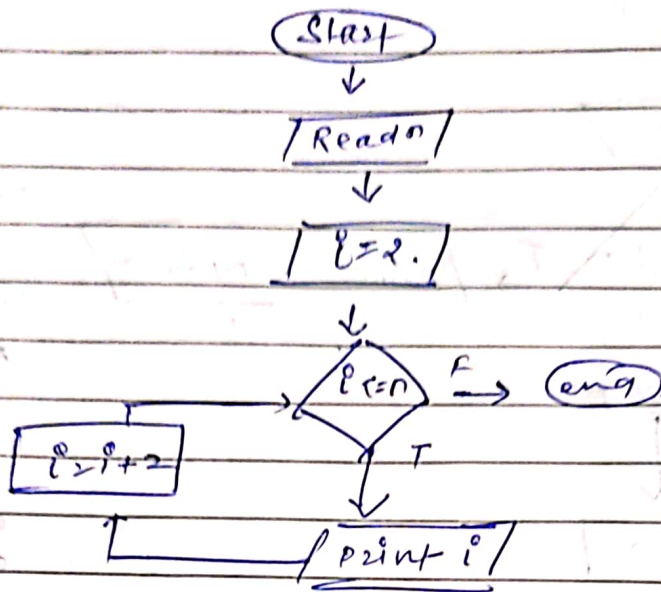
$$(a+b) > c$$

$$(b+c) > a$$

$$(a+c) > b$$



Flowchart- Q8 : print only even no. from 1 to N.



pseudocode

1. Read n
2. $i = 2$
3. If $i \leq n$
 - A. Print i
 - B. $i = i + 2$
 - C. Go to 3
4. Else stop

Flowchart- Q9 : print maximum of three no.s.

eg:- $a = 2, b = 3, c = 5$.

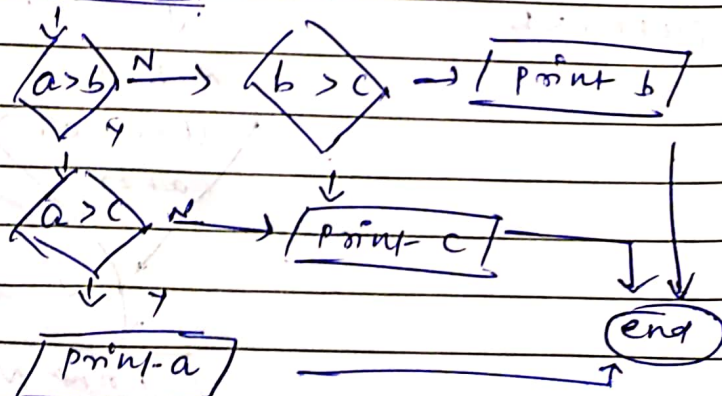
$a > b ? \rightarrow a > c ? \rightarrow a \checkmark$
 \downarrow
 $b \rightarrow b > c ? \rightarrow b \checkmark$
 \downarrow
 $c \checkmark$

pseudocode

1. Read a, b, c.
2. If $a > b$
 - A. If $a > c$
 - A. Print a.
 - B. Print c.
3. Else
 1. If $b > c$
 - Print b
 2. Else Print c.

START

Read a, b, c.



patterns Question 1 & 2 is already done in the class.

▶ patterns q3 : Hollow inverted half pyramid.

n = 6

① Row = 6 & col = 6.

② $i = 0$ or $i = 5$

print all stars.

if $i \neq 0$ & $i \neq 5$

if $j \neq 0$ & $j \neq 5 - i$

print spaces.

else

print star.

	0	1	2	3	4	5
0	*	*	*	*	*	*
1	*				*	
2	*			*		
3	*		*			
4	*	*				
5	*					

Code

```
for (int i = 0; i < 6; i++) {
    for (int j = 0; j < 6 - i; j++) {
```

```
        if (i == 0 || i == 5) cout << " * " ;
```

```
        if (i != 0 & i != 5) {
```

```
            if (j != 0 & j != 5 - i) cout << " " ;
```

```
            else cout << " * " ;
```

```
        }
```

```
    }
```

```
    cout << endl;
```

```
}
```

▶ patterns 04 : Hollow Full Pyramid

	J=	0	1	2	3	4	5	6	7	8	9	10	
i=0		1	2	3	4	5	*	6	7	8	9	10	1 *
1		1	2	3	4	*	*	*	7	8	9	10	3 *
2		1	2	3	*	*	*	*	*	8	9	10	5 *
3		1	2	*	*	*	*	*	*	*	9	10	7 *
4		1	*	*	*	*	*	*	*	*	*	10	9 *
5		*	*	*	*	*	*	*	*	*	*	*	11 *

Row = 6

Column = 11

① Row = $n = 6$
Col = $(2 * n) - 1 = 11$

② First Spaces.
Then print stars.
again spaces.

for first Spaces.

if ($j < n - i - 1$)

cout << " ";

Then for Last Spaces.

if ($j > n - 1$)

cout << " ";

And for printing stars.

cout << " * ";

```

      *
    * *
  *   *
 *     *
*       *
 *     *
    * *
      *

```

Same approach but here we have to add the corner stars.

So the formula for corner stars are.

```
int k=0
```

```
if (j < n-i-1) cout << " ";
```

```
else if (k < 2*i+1) {
```

```
  if (k==0 || k==2*i || i==n-1) cout << " * ";
```

```
  else cout << " ";
```

```
  k++;
```

```
}
```

```
cout << " ";
```

==.