



Today's agenda

↳ if / else

↳ if / else if ... - else

↳ while loop

1st: you guys will get ASSIGNS/H.W starting from next class. leetcode / cfc / HackerRank.

HackerRank



Practice Page → add → leetcode/gbg
link:

leaderboard ↗

2nd → quickly solve → levelup

1st / 2nd / 3rd
working projects
foundation

complete

levelup

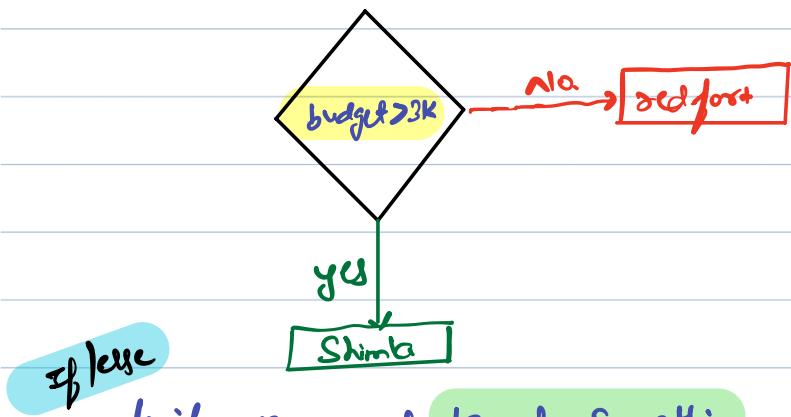
4th year / badges
foundation → Assess →
Arrays →
Arrays levelup
decodings



// If / Else

budget > 3K → Shimla

budget < 3K → Red fort



If we want to do something when the Condⁿ is true and something else if Condⁿ is false.

Syntax

if (Condⁿ) {
 // Statement 1
}
else {
 // Statement 2
}

if Condⁿ → true : Statement1
if Condⁿ → false : Statement2



11 Pseudo Code

```
if (budget > 3000) {
    System.out.println("Shimla");
}
else {
    System.out.println("Mumbai");
}
```



AlgoPrep



Q) Take input mark scored by a student. Print "Pass" if
mark ≥ 35 , otherwise Print "fail".

```
if (mark >= 35){  
    System.out.println("Pass");  
} else {  
    System.out.println("Fail");  
}
```

Quiz 1 :



```
if (15 > 7){  
    System.out.println("if");  
} else {  
    System.out.println("else");  
}
```

→ if

Quiz 2 :

```
int n = 70;  
if (n > 70){  
    System.out.println("if");  
}  
else {  
    System.out.println("else");  
}
```

→ else



Q) Read a number and check if number is even or

odd? even no: divisible by 2 → remainder 0

odd no: not divisible by 2

Scanner scn = new Scanner (System.in);

int num = scn.nextInt();

9%2 → 1

12%2 → 0

if (num%2 == 0) {

System.out.println ("even");

else {

System.out.println ("odd");

}

// logical operators → &&, || and , not

&&

Cond¹ && Cond²

answer

false
dominated
relation

T T

T

F T

F

T F

F

F F

F

if (cond¹ cond²)

used to club

multiple condⁿ

int a = 50;

int y = 30;

if (a > 60 && y > 20) {

// Statement 1

→ Statement 2

3

else {

// Statement 2

}



→ 3 condⁿs

Condⁿ1 & Condⁿ2 & Condⁿ3 answer

T	T	T	T
T	T	F	F

→ if you want to execute "if" only when all the
Conditions are true? → **&**

or || → or

true dominated relation

Condⁿ1 || Condⁿ2

answer

T	T	T
T	F	T
F	T	T
F	F	F



- Q) Read a number. If number is divisible by 2 or 3
Point "divisible", otherwise Point "not divisible".

```
Scanner scn = new Scanner (System.in);
int num = scn.nextInt();
num: 8 → divisible
num: 36 → divisible
if ((num % 2 == 0) || (num % 3 == 0)){
    System.out.println ("divisible");
} else {
    System.out.println ("Not divisible");
},
```

- Q) Read a number. If number is divisible by 2 and 3
Point "divisible", otherwise Point "not divisible".

6 ide

```
Scanner scn = new Scanner (System.in);
int num = scn.nextInt();
if ((num % 2 == 0) && (num % 3 == 0)){
    System.out.println ("divisible");
} else {
    System.out.println ("Not divisible");
},
```



if | Else if (...) ... | Else

Syntax

↳

```
if (Condn) {  
    // Statement 1  
    } else if (Cond2) {  
    // Statement 2  
    } else if (Cond3) {  
    // Statement 3  
    } else {  
    // Statement 4
```

10 blocks \rightarrow 9 condⁿ

Condⁿ true \rightarrow Statement 1 & skip remaining if else

Condⁿ false \rightarrow Statement 2 & skip remaining if else

Condⁿ false \rightarrow Statement 3

All the condⁿ's are false \rightarrow else



Comparison

if (condⁿ₁) {
 // Statement 1

 }
 if (condⁿ₂) {
 // Statement 2

 }
 if (condⁿ₃) {
 // Statement 3

 }
 if (condⁿ₄) {
 // Statement 4

 }

if (condⁿ₁) {
 // Statement 1

 }
 else if (condⁿ₂) {
 // Statement 2

 }
 else if (condⁿ₃) {
 // Statement 3

 }
 else {
 // Statement 4

 }

↳ Condⁿ₁ & Condⁿ₃ are true



Statement 1

Statement 3



Statement 1



Q) Given 3 numbers, Point max out of these.

ex:	a	b	c	ans
	6	3	4	6
	8	3	10	10
	12	4	4	12
	13	10	13	13
	8	6	8	8
	11	11	11	11

a	b	c	
13	10	13	→ 13
11	11	11	→ 11
8	3	10	→ 10
0	2	0	→ 2

II) Pseudo code

```
int a = scn.nextInt();  
int b = scn.nextInt();  
int c = scn.nextInt();  
  
if (a >= b && a >= c){  
    System.out.println(a);  
} else if (b >= a && b >= c){  
    System.out.println(b);  
}  
else {  
    System.out.println(c);  
}
```

Break till 9:43 PM



11 Intro to loops

↳ Print all numbers from 1 to 5.

System.out.println(1);

System.out.println(2);

System.out.println(3);

System.out.println(4);

System.out.println(5);

↳ Print numbers from 1 to 1000.

loop! Do same thing multiple times

↳ a) while loop ↗

b) for loop ↗

c) ~~do while~~ xx

Q) Print 1 to 5 using while loop.

int i=1;

while (i<=5) { "Cond": loops will run till the Cond is true.

 System.out.println(i);

 i = i+1;

}



Dry run

i	$i <= 5$	Point
1	T	1 → $i = i + 1 \rightarrow i = 2$
2	T	2 → $i = i + 1 \rightarrow i = 3$
3	T	3 → $i = i + 1 \rightarrow i = 4$
4	T	4 → $i = i + 1 \rightarrow i = 5$
5	T	5 → $i = i + 1 \rightarrow i = 6$
6	F	

i = i+1 & i++ are same

// Structure of while loop

1. Initialize loop variable.

```
int i=1;
```

2. Work while with condn.

```
while (i <= 100) {
```

```
}
```

3. The statement you want to run.

```
System.out.println(i);
```

4. updation of loop variable.

```
i = i + 1; or i++;
```



Quiz 3

```

int i=5;
while(i<10){
    System.out.print(i);
    i=i*2;
}
  
```

i	i < 10	Point
5	T	5 → i: i+2 → i: 10
10	F	

Quiz 4:

```

int i=1;
while(i<5){
    System.out.print(i+ " ");
    i=i+2;
}
  
```

i	i < 5	Point
1	T	1 → i: i+2; i: 3
3	T	3 → i: i+2; i: 5
5	F	

1 3...

Quiz 5:

```

int i=1;
while(i>=5){
    System.out.println(i);
    i++;
}
  
```

i	i >= 5	Point
1	F	



Quiz 6:

`int i=1;`

`while (i<=5) {`

`System.out.print(i);`

`}`

<code>i</code>	<code>i<5</code>	Point
1	T	1
1	T	1
1	T	1
⋮	⋮	⋮

Quiz 8:

`int i=0;`

`while (i<=5) {`

`System.out.println ("AlgoPep");`

`i = i+1;`

`}`

How many times AlgoPep will be printed?

6

<code>i</code>	<code>i<5</code>	Point
0	T	1st Point $i=1$
1	T	2nd Point $i=2$
2	T	3rd Point $i=3$
3	F	
4	T	
5	T	
6	F	6th Point $i=6$

↳ 15 classes \Rightarrow language won't matter to you

↓
writing the code is easiest.