

Good Evening Everyone

We will start @ 09:10 pm

Conditional Statement

↳ Condition

↳ some statements to be executed.

→ Execution of statements / code based on certain cond'.

✓ if

✓ else

✓ else if

→ switch case!

① If (end) Statement

syntax

if (condⁿ) { true
 } then execute
 this code .

≡

false
ignore this
block of code . }

|| ^

↳ WAP to check age is greater than or equals to 18 or not.

↳ $>= 18 \rightarrow$ eligible for voting

$y < 18 \rightarrow$ Not - x —————

if ($g_{j, >} = 18$) 
print

else print(-)

User Input → age

```
1    → if ( age >= 18 )  
      print ( — );
```

```
******/  
import java.util.*;  
  
public class Main  
{  
    public static void main(String[] args) {  
        Scanner scn = new Scanner(System.in);  
        System.out.println("Enter your age: ");  
        int age = scn.nextInt(); - 18 * 15  
        if (age >= 18) {  
            System.out.println("Eligible for Voting");  
        }  
    }  
}
```

skip this part

15 >= 18

15

18

→ Optional

else - when all cond'ns are false , then execute else part

Syntax else { ↴

↳ ↴

Note:- if we have 1 single statement to execute we can ignore ({}) brackets .
otherwise mandatory to use ({}) brackets .

Q: 31 P.M

```
import java.util.*;  
  
public class Main  
{  
    public static void main(String[] args) {  
        Scanner scn = new Scanner(System.in);  
        System.out.println("Enter your age: ");  
        int age = scn.nextInt();  
  
        if (age >= 18) {  
            System.out.println("Eligible for Voting");  
        } else {  
            System.out.println("Not Eligible for Voting");  
        }  
    }  
}
```

when age >= 18
when age < 18

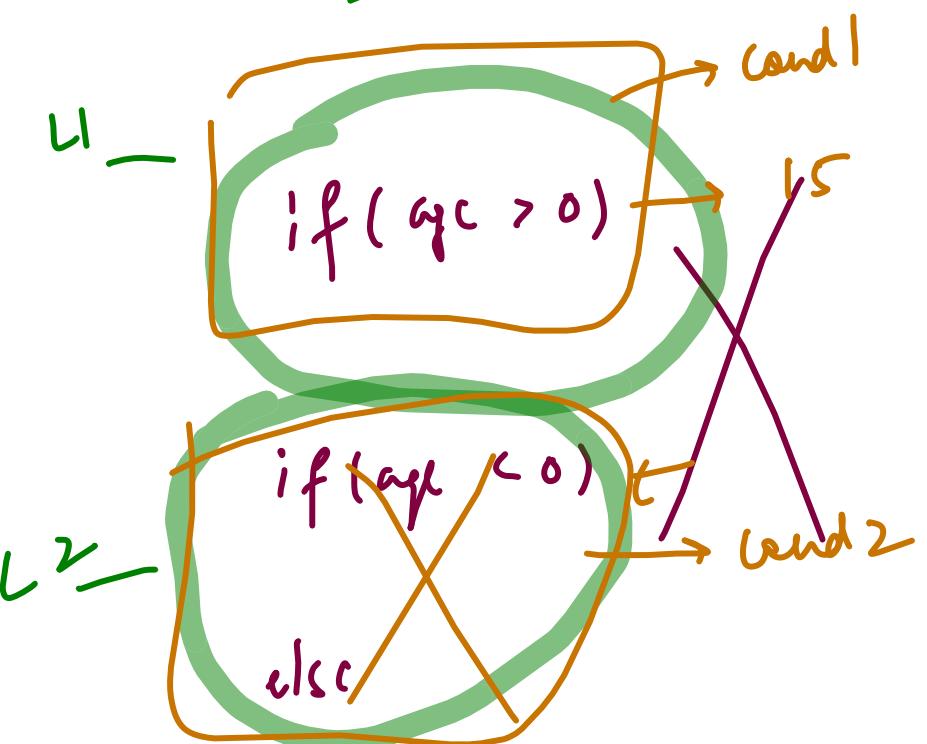
→ at a time
only one condition
is executed

Q: WAP

↳ $a = 15$



+ve, -ve or zero.



if else.

if ($age > 0$)

else

-ve, zero.

if
else if

Note:- In a same logic, we can't use multiple if statement.

```
public class Main
{
    public static void main(String[] args) {
        Scanner scn = new Scanner(System.in);
        System.out.println("Enter the number: ");
        int a = scn.nextInt();

        if (a > 0) {
            System.out.println("It's a positive number");
        }
        if (a < 0) {
            System.out.println("It's a negative number");
        } else {
            System.out.println("It's a zero");
        }
    }
}
```

→ first logic
checking only no. is true

→ second logic
checking if no. is -ve or zero.

```
import java.util.*;  
  
public class Main  
{  
    public static void main(String[] args) {  
        Scanner scn = new Scanner(System.in);  
        System.out.println("Enter the number: ");  
        int a = scn.nextInt();  
  
        if (a > 0) {  
            System.out.println("It's a positive number");  
        }  
        else if (a < 0) {  
            System.out.println("It's a negative number");  
        }  
        else if (a == 0) {  
            System.out.println("It's a zero");  
        }  
    }  
}
```

→ This logic solves the problem but not in a proper way
Why?
Is being here it's look like we have 3 logics

Else if :-

↳ When we want to write multiple condition's for a same logic, we will use "else if"

- ↳ We can use multiple `elseif` in a same logic.
- ↳ We can use `elseif` only after '`if`' and '`end`' statement

Syntax :-

```
if ( - ) {  
    |  
    elseif ( cond" ) {  
        |||  
    }  
}
```

~~else if~~ → error

↳ if ($a > 0$) {

+ve;

1

else if ($a < 0$) {

-ve;

1

use {

zu;

```
*****  
import java.util.*;  
  
public class Main  
{  
    public static void main(String[] args) {  
        Scanner scn = new Scanner(System.in);  
        System.out.println("Enter the number: ");  
        int a = scn.nextInt();  
        if (a > 0) {  
            System.out.println("It's a positive number");  
        } else if (a < 0) {  
            System.out.println("It's a negative number");  
        } else {  
            System.out.println("It's a zero");  
        }  
    }  
}
```

Handwritten annotations on the code:

- A yellow circle highlights the opening brace of the `if` statement.
- The condition `a > 0` is crossed out with a large red X.
- The value `a = -50` is written above the code, with a yellow arrow pointing to the variable `a`.
- Yellow arrows point from the text "It's a positive number" to the original condition `a > 0` and the opening brace of the `if` block.
- A yellow circle highlights the opening brace of the `else if` block.
- Yellow arrows point from the text "It's a negative number" to the condition `a < 0` and the opening brace of the `else if` block.
- A yellow circle highlights the opening brace of the `else` block.
- Yellow arrows point from the text "It's a zero" to the condition `a == 0` and the opening brace of the `else` block.

- Q-1 WAP to check a given no. is even or odd?
 ex: $a = 5 \rightarrow$ odd
 $a = 24 \rightarrow$ even
- Q-2 WAP to check two nos. are equal or not.
 $a = 10$ $a \neq b \rightarrow$ Not equal
 $b = 15$
- $a = 20$ $b = 20$ \rightarrow equal.
- Q-3 WAP to find max of 2 nos. (both nos. are distinct)
 $a = 20, b = 15 \rightarrow a$
 $a = 20, b = 5 \rightarrow b$
- By 10:25pm
- Q-4 \rightarrow WAP to check last digit of a no. is zero or not
 ex: $a = 15 \uparrow \rightarrow$ not zero
 $a = 10 \rightarrow$ zero.
- Q-5 Assign grade (Grading system question)
 $\rightarrow m_1, m_2, m_3, m_4, m_5 \rightarrow 100$
 ↳ (a) find % of a student
 ↳ (b) find grade of a student
 $> 90\% \rightarrow A$
 $> 80\% \rightarrow B$
 $> 70\% \rightarrow C$
 $> 60\% \rightarrow D$
 else E
- $\rightarrow \left\{ 10, 20, 30, 40, 50, 60, 70, 100, 1000, \dots \right\}$
- \hookrightarrow divisible by 10
 \hookrightarrow remainder = 0
- sum of marks obtained by student
total marks
 $\times 100$
 (500)

even \Rightarrow divisible by 2
 \hookrightarrow remainder ($\circ \mid _0$)

if $(a^v \mid _0) = : 0$

$$(4^v \mid _0) = : 0$$

Q- WAP

↳ month no. → corresponding month.

2 → feb

0 X → Invalid input.

> 12 → Invalid Input.

10 → Oct

Soln:-

Q- WAP to give discount and print final price after disc. 12

↳ Price (P)

→ if ($age < 13$) disc = 50%.

$$\underline{CP} = \frac{1000}{2} = 500$$

↳ age

→ else if ($age > 10$) disc = 30%,

→ 14-59+ No discount.

$$\underline{CP = 500}$$

~~Price 100
30~~

$$\frac{P_{NLL} \times 30}{100} \quad \checkmark$$

Switch Case

similar to if else if ladder.

Syntax:

```
switch variable {  
    case 1:  
        print ("Jan");  
        break;  
    case 2:  
        ...  
    case 3:  
        ...  
    case 4:  
        ...  
    case 5:  
        ...  
    case 6:  
        ...  
        break;  
    ...  
    case 12:  
        ...  
    default:  
        ...
```

$a == 1$

break

$a = 6$

$a == 1$

drawback

↳ expression

$a = 15$

+ve

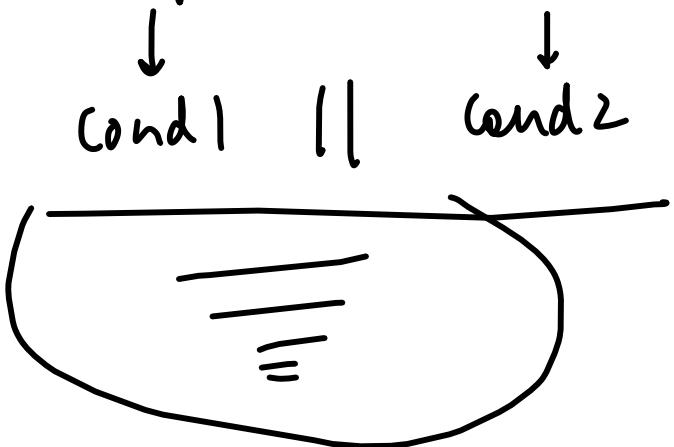
↓ -ve ↓ zero

H.W.
Case 2: {
 print (-)
 =
 =

break from
this switch

Logical Operator \rightarrow boolean

any one condⁿ is true.



↳ OR $\Rightarrow \sqcup$

↳ AND $\Rightarrow \sqcap$

Cond 1 $\sqcap\sqcap$ Cond 2] \rightarrow both condⁿ should be true.

↳ WAP
age > 18 and age < 60
↳ '

condⁿ () &
(cond¹) || cond² || cond³ || cond⁴

Q- WAP \rightarrow Grade Evaluation (Switch Case)

7 mins

ch \rightarrow 'A', 'B', 'C', 'D', 'E' or 'F'

A \rightarrow Excellent

B \rightarrow Good

C \rightarrow Fair

D \rightarrow Average

E \rightarrow Need Improvement

F \rightarrow Fail

a, e, i, o, u, A, E, I, O, U

4

10:30 PM

ch = 'a' & ch = 'z'

↳ lowercase alphabet

ch = 'A' & ch = 'Z'

↳ uppercase alphabet

operator
concept

syntax

Q- WAP to check given character is a vowel or consonant - (lower case input) \hookrightarrow a-2

ch = 'a', 'e', 'i', 'o', 'u' \rightarrow vowel

otherwise "consonant"

WAP using switch case to perform ^{basic} mathematical op (+, -, *, /)

{ double num1 →
double num2 →

{ char ch → '+' , '-' , '*' , '/'

switch

 + → num1 + num2

 - → num1 - num2

 * → num1 * num2

 / → num1 / num2

$$\left. \begin{array}{l} \text{num1 = } 10.5 \\ \text{num2 = } 5.2 \\ \text{ch = '}' \end{array} \right\}$$

15. 7

↓
7 mins

9:52 PM

```
v ↗ ⚡ ⚡ ⚡ ⚡ input
Enter the month number:
5
Month is May
Month is Jun
Month is Jul
Month is Aug
Month is Sep
Month is Oct
Month is Nov
Month is Dec
Month is Jan
Month is Feb
Month is Mar
Month is Apr
Month is May
...
...Program finished with exit code 0
Press ENTER to exit console.
```

→ O/P without using
break keyword

```
v ↗ ⚡ ⚡ ⚡ ⚡ input
Enter the month number:
5
Month is May
...
...Program finished with exit code 0
Press ENTER to exit console.
```

→ With break keyword.