⇒ If else ladder

Syntax :-

```
if ( condition1 ) {
        // statement 1
} else if ( condition 2 ) {
        // statement 2
} else if ( condition 3 ) {
        // statement 3
}
:
else {
        // statement
}
```

Note :-

1) if else ladder, only 1 cond^{n} can get executed at a time
2) always go from to bottom
3) if cond^{n} is mandatory, all others are optional
4) In if else ladder, we can have only 1 if and only 1 else, but any no. of else if.

Ex:-

```
if ( 2 > 7 ) {
    Syso("a")
} else if( 3 == 4 ){
    Syso("b")
} else if ( 5 > 2 ) {
    Syso("c");
} else if ( 7 > 2 ) {
    Syso("d");
} else {
    Syso("e");
}
```

O/P

C

Grade the student 1

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int marks = scn.nextInt();

    if ( marks > 90 ) {
        System.out.println("excellent");
    } else if ( marks > 80 && marks <= 90 ) {
        System.out.println("good");
    } else if ( marks > 70 && marks <= 80 ) {
        System.out.println("fair");
    } else if ( marks > 60 && marks <= 70 ) {
        System.out.println("meets expectations");
    } else if ( marks > 40 && marks <= 60 ) {
        System.out.println("below par");
    } else {
        System.out.println("failed");
    }
}
```

Print the oldest among three

i/p A = 22 , B = 24 , C = 21

```
if ( A > B && A > C ) {
    Syso ("A");
} else if ( B > A && B > C ) {
    Syso ("B");
} else if ( C > A && C > B ){
    Syso ("C");
}
```

Print the oldest among three

```
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    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 if ( C > A && C > B ) {
        System.out.println("C");
    }
}
```

⇒ Nested if else // one inside another

Syntax :-

```
if ( cond1 ) {
    if ( cond2 ) {
        Syso("A");
    } else {
        Syso("B");
    }
}
```

o/p

cond1 && cond2 → A

cond1 && !cond2 → B

Rich Adult Young

Take the **age** and **salary** of a person as an integer input,

If the **age** is **above 40** then

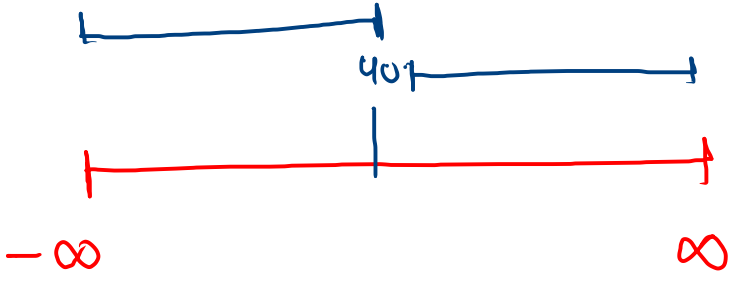
a. If the **salary is greater than or equal to 30,000** then print **You are rich and adult**

b. Else print **You are an adult**

Else if **age** is **less than or equal to 40**

a. If the **salary is greater than or equal to 12,000**, then print **You are rich and young**

b. Else print **You are young**



age = 35
salary = 50,000

```
if ( age > 40 ) {
    if ( salary >= 30,000) {
        Syso ( R & A );
    } else {
        Syso (A);
    }
} else {
    if( salary >= 12,000){
        Syso (" R & Y")
    } else {
        Syso ( Y );
    }
}
```

code

```java
public static void main(String[] args) {
    Scanner scn = new Scanner(System.in);
    int age = scn.nextInt();
    int salary = scn.nextInt();

    if ( age > 40 ) {
        if ( salary >= 30000 ) {
            System.out.println("You are rich and adult");
        } else {
            System.out.println("You are an adult");
        }
    } else if ( age <= 40 ) {
        if ( salary >= 12000 ) {
            System.out.println("You are rich and young");
        } else {
            System.out.println("You are young");
        }
    }
}
```