

Nested if-else

start ← if (10th pass) {
 if (choice = Sci, Comm, Arts) {
 if (Non Medical, Medical) {
 ○ // code executed
 }
 }
}

else if (Back) {
 (re exam)
}

else {
 ("papa marange")
}

greater of three (else if)
 $(x, y, z) \rightarrow \text{easy}$

if $(x > y \text{ \& \& } x > z)$ ✓
 $\{x\}$

else if $(y > z \text{ \& \& } y > x)$ ✓
 $\{y\}$
 $\text{else } z$

if $(x > y)$ ✓ x (nested)
 $\{$
 $\text{if } (x > z)$ ✓
 $\{x\};$ $x < z$
 \uparrow
 $y < z$
 $\}$
 $\text{else } \{z\};$
 $\}$
 $\text{else } \{$
 $\text{if } (y > z)$ ✓
 $\{y\}$
 $\text{else } \{z\}$
 $\}$
 $\}$

Second largest of three
(a, b, c);

10
↓
second largest

α
✓
a b c
- if (a > b) {
 if (a > c)
 if (1

c > a > b

a > b

a > c

a > b > c

b < c > a

} else {
 if

}; // Second largest B
 c);

a < c

a < b > c

c);
if (a > c) {
 c);
} else {
 c);

a < b > c

α
a b c

a > b α
a < b > c → b second

✓
a b c
10 40 30

b > c
c > a

a < b > c
← b;

a < b & &
a > c

```
Scanner scn = new Scanner(System.in);
int a = scn.nextInt();
int b = scn.nextInt();
int c = scn.nextInt();
if(a>b){
    if(a>c){
        if(b>c){
            System.out.println(b);
        }else{
            System.out.println(c);
        }
    }else{
        System.out.println(a);
    }
}
else{ // b>a
    if(b>c){
        if(a>c){
            System.out.println(a);
        }else{ // a<c
            System.out.println(c);
        }
    }else{// b<c
        System.out.println(b);
    }
}
```

greater than or equal to 50 and y is less than 10

se print None of the condition matches

```
Scanner scn = new Scanner(System.in);
```

```
int x = scn.nextInt();
```

```
int y = scn.nextInt();
```

```
if(x >= 59 && y >= 10){
```

```
System.out.println(x: "X is greater than or equal to 59 and y is greater tha
```

```
}else if(x >= 50 && y < 10){
```

```
System.out.println(x: "X is greater than or equal to 50 and y is less than 1
```

```
}else{
```

```
System.out.println(x: "None of the condition matches");
```

```
}
```

X 69 Y 5
[99] [55]

(99 >= 59 && 55 >= 10) → True

(69 >= 50 && 5 < 10)

// In the end Print the final salary.

```
Scanner scn = new Scanner(System.in);
```

```
int age = scn.nextInt();
```

```
int salary = scn.nextInt();
```

```
int experience = scn.nextInt();
```

```
if(age > 60 && salary > 20000 && experience > 20){
```

```
salary += 5000;
```

```
}else if(age > 40 && salary > 15000 && experience > 10){
```

```
salary += 2000;
```

```
}else if(age > 30 && salary > 10000 && experience > 5){
```

```
salary += 1000;
```

```
}else{
```

```
salary += 500;
```

```
}
```

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

```
}
```

age 45 sal 19000
[45] [17000]

exp 11
[11]

45 > 60

(45 > 40 && 17000 > 15000 && 11 > 10)

19000

// In the end print the final value of z as an integer ou

```
Scanner scn = new Scanner(System.in);
```

```
int x = scn.nextInt();
```

```
int y = scn.nextInt();
```

```
int z = scn.nextInt();
```

```
if(x >= 20 && z < 100){
```

```
    z += 200;
```

```
} else if(x >= 10 || y < 50){
```

```
    z += 100;
```

```
}
```

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

α $\boxed{25}$ 15 $\boxed{100}$

2 $\boxed{15}$ 215

\checkmark $(25 \geq 20 \text{ and } 15)$

α $(15) = 20$

\checkmark α $(15 \geq 10 \text{ and } 100 < 50)$

115 \checkmark

```

if(x%3==0){ 3%3 = 0 → T
    if(y>=200){ (201 >= 200) -
        z +=10;
    }else if(y>=100 && y<200){
        z +=5;
    }else if(y>=50 && y<100){
        z +=4;
    }else if(y<50){
        z +=1;
    }
}else{
    if(y>=200){
        z +=3;
    }else if(y>=100 && y<200){
        z +=2;
    }else if(y<100){
        z +=1;
    }
}
z +=10;
System.out.println(z);

```

Handwritten annotations on the code:

- Red arrows pointing to the first `if` block and the `z +=10;` line at the bottom.
- Red 'X' marks next to the `else if` branches in the first `if` block.
- A red circle around the number `70` on the right side.

Handwritten variable values:

x : 9

y : 201

z : ~~50~~ ~~60~~ 70

Preincrement Post increment

$\leftarrow ++x$, $x++$

\swarrow \downarrow

First increment then use this variable use of this variable then increment