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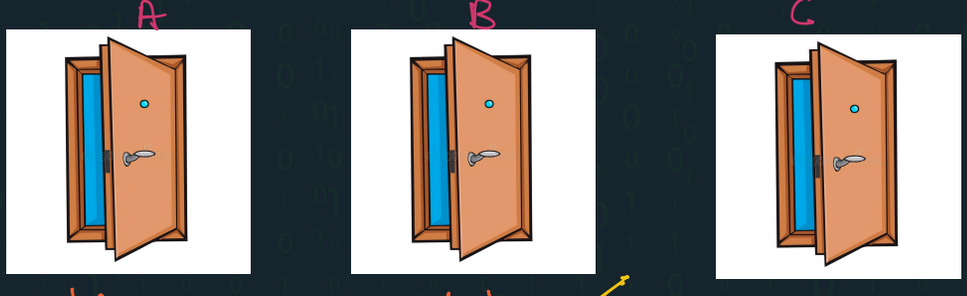
## Decision Making:

- If - Statement ✓
- if - Else Statement ✓
- if - else ladder ✓
- logical operator in the conditional statement
- Ternary Operator
- Hackerrank - Questions

## Decision Making:

- 10th class
  - Science
  - Commerce
  - Arts

# Riddles



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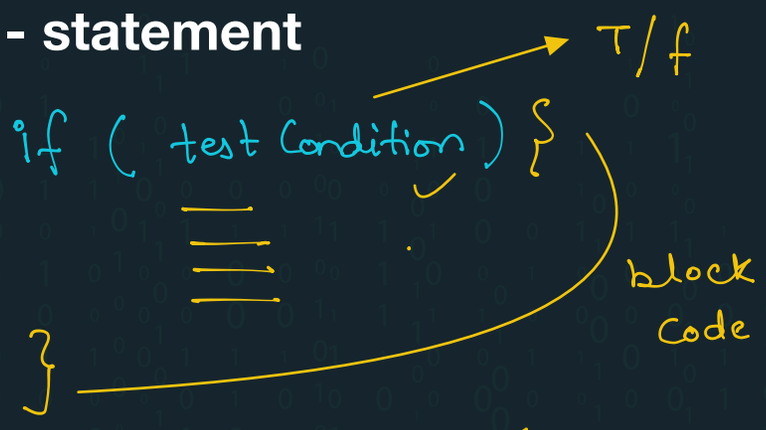
# IF - statement




```java
public class Main {
    public static void main(String[] args) {
        int num = 12;
        if(num > 0){
            System.out.println("Positive Number");
        }

        System.out.println("Code outside the if statement");
    }
}
```

false → skip

test Condn → 12 > 0

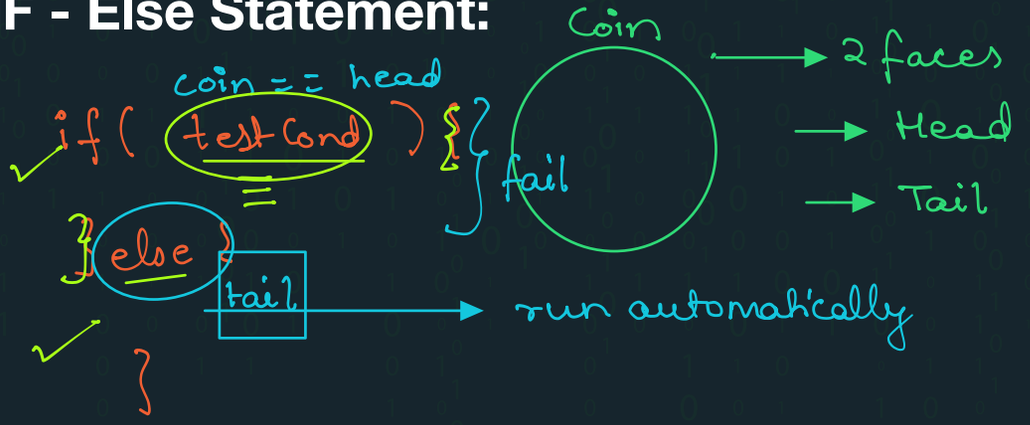
```
" "static void main" must be defined in a public class.
ublic class Main {
  public static void main(String[] args) {
      int num = -12;
      if(num > 0){
          System.out.println("Positive Number");
      }

      System.out.println("Code outside the if statement");
  }
```

false → skip

doesn't belong to any condition

# IF - Else Statement:



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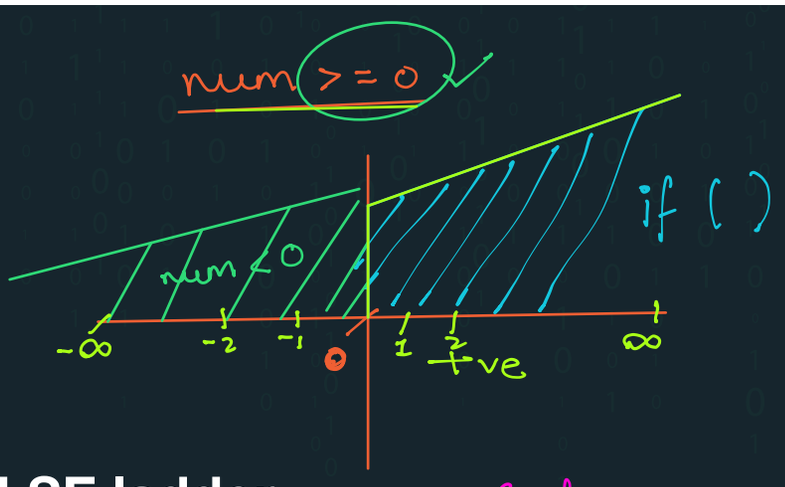
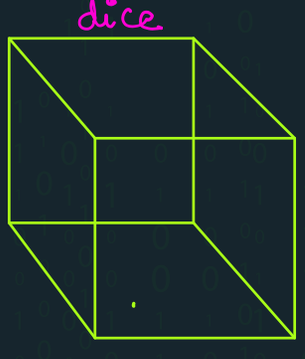
```
/ "static void main" must be defined in a public class.
ublic class Main {
    public static void main(String[] args) {
        int num = 5;
        if(num >= 0){
            System.out.println("Zero or Positive Number");
        }else{
            System.out.println("Negative Number");
        }

        System.out.println("Code outside the if statement");
    }
```

test cond^n → run / skip

num < 0 → Automatically run / skip




## IF - ELSE ladder → 6 faces




```
if ( face == 1 ) {
} else if ( face == 2 ) {
} else if (face == 3) {
} else if (face == 4) {
} else if ( face == 5) {
} else {
}
```

face = 6

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```java
int dice = 100;
if(dice == 1){
    System.out.println("Face Value 1");
}else if(dice == 2){
    System.out.println("Face Value 2");
}else if(dice == 3){
    System.out.println("Face Value 3");
}else if(dice == 4){
    System.out.println("Face Value 4");
}else if(dice == 5){
    System.out.println("Face Value 5");
}else if(dice == 6){
    System.out.println("Face Value 6");
}else{
    System.out.println("Invalid Number");
}
```

5

print

# Sir why we don't use multiple if statement for handling test cases ?

```java
int dice = 100;
if(dice == 1){
    System.out.println("Face Value 1");
}if(dice == 2){
    System.out.println("Face Value 2");
}if(dice == 3){
    System.out.println("Face Value 3");
}if(dice == 4){
    System.out.println("Face Value 4");
}if(dice == 5){
    System.out.println("Face Value 5");
}if(dice == 6){
    System.out.println("Face Value 6");
}
```

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X X X

print

Time to open

100

Consuming time to check other test cases as well

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```
blic static void main(String[] args) {
  int num = -5;
  if(num == 0){
      System.out.println("Zero ");
  }else if(num > 0){
      System.out.println("Positive Number");
  }else{
      System.out.println("Negative Number");
  }

  System.out.println("Code outside the if statement");
```

# Even or Odd

```
class Main {
lic static void main(String[] args) {
 int num = 11;
 if(num % 2 == 1){
     System.out.println("Odd Number");
 }else{
     System.out.println("Even Number");
 }
```

## Hacker Rank Discussion:

### Adult or not 1

Problem | Submissions | Leaderboard | Discussions

You will be given the age of a person as an integer input, you need to print "Adult" if the age is greater than or equal to 18 and print "Below age" if the age is below 18.

Input Format

For each test case, you will get the age of a person as an integer input.

Scanner class →

int age =>

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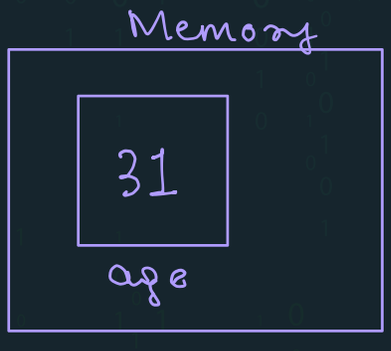
if (age >= 18)
    print ("Adult")

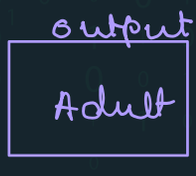
else
    print ("Below age")

```
/* Enter your code here. Read input from
Scanner scn = new Scanner(System.in);
int age = scn.nextInt();
if(age >= 18){
    System.out.println("Adult");
}else{
    System.out.println("Below age");
}
```

31 >= 18 → true

skip




## Ternary Operator:

System.out.println ( (testcond) ? "Adult" : "Below age" );

true → "Adult"

false → "Below age"

Ternary Operator will only replace if-else (2 cond)

```
lic static void main(String[] args) {
  /* Enter your code here. Read input from STDIN. Print output
  Scanner scn = new Scanner(System.in);
  int age = scn.nextInt();
  System.out.println(age>=18 ? "Adult" : "Below age");
```

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test cond → True

test cond → false

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# High Sum or Low Sum

Problem | Submissions | Leaderboard | Discussions

You will get two integer inputs x and y, you need to print "High Sum" if sum is greater than or equal to 100, and print "Low Sum" otherwise.

**Input Format**

You will get the value of x in the first line, You will get the value of y in the second line.

Scanner →

int x, y } input

int sum = x + y ;

if ( sum >= 100 )
    print( High Sum);

else
    print ( Low Sum);

```
public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN.
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();

    int sum = x + y;
    if(sum >=100){
        System.out.println("High Sum");
    }else{
        System.out.println("Low Sum");
    }
}
```

x → 70

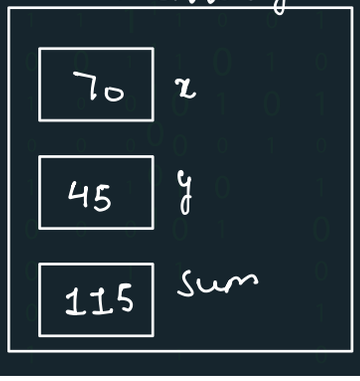
y → 45

sum → 115

115 >= 100

→ High Sum

Memory



```
    Scanner scn = new Scanner(System.in);
    int x = scn.nextInt();
    int y = scn.nextInt();

    int sum = x + y;
    System.out.println(sum >=100 ? "High Sum" : "Low Sum");
}
```

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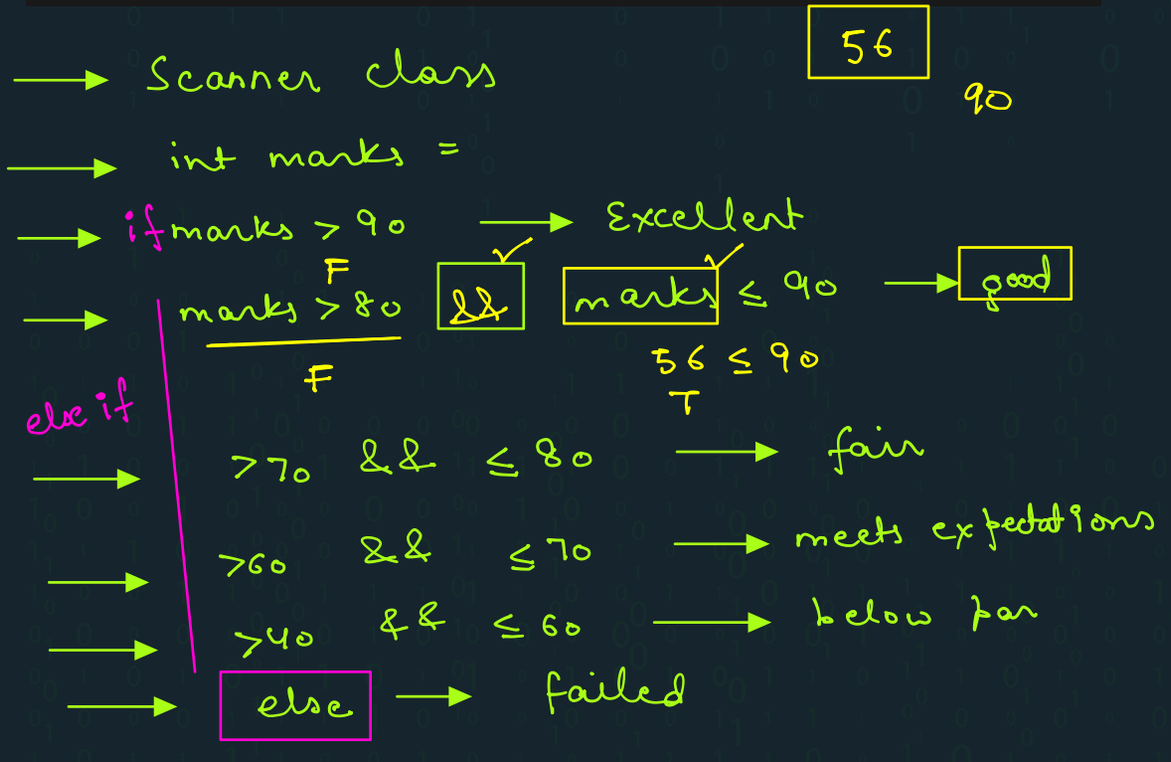
# IF - ELSE with Logical Operator:

## Grade the student 1

Problem | Submissions | Leaderboard | Discussions

You are given marks of a student as an integer input. You need to print according to the following rules: 1 for marks above 90, print excellent. 2 for marks above 80 and less than equal to 90, print good. 3 for marks above 70 and less than equal to 80, print fair. 4 for marks above 60 and less than equal to 70, print meets expectations. 5 for marks above 40 and less than equal to 60, print below par. 6 print failed if none of the above conditions follow.



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```
        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");
        }
    }
}
```

# Shop Discount

Problem | Submissions | Leaderboard | Discussions

A shop will give a discount of 10% on the total cost if the cost of the quantity purchased is more than 1000. a. Ask user for the number of units b. Suppose, one unit will cost 100. c. Judge and print total cost for the user in the integer format.

Input Format

For each test case, You will be given the number of units in the integer format.

shop > 1000 → 10%.

unit → 2 → user

100 ✓

10 per →

11 per →

total cost = unit x100;

if ( total cost > 1000)

10% discount

10 * 100 = 1000

11 * 100 = 1100 - 10%.

1100 - 110 = 990

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Scanner →

```
int unit = scn.nextInt();
int cost = unit * 100;
if (cost >1000) {
    int discount = (cost*10)/100 ;
    cost = cost - discount ;
}
print(cost);
```

```
public static void main(String[] args) {
    /* Enter your code here. Read input from STDIN. Print output to S

    Scanner scn = new Scanner(System.in);
    int unit = scn.nextInt();
    int cost = unit * 100;
    if(cost > 1000){
        int discount = (cost * 10) / 100;
        cost = cost - discount;
    }
    System.out.println(cost);
}
```

14 → 1400 → 1400 > 1000 → 140 → 1400 − 140 = 1260 → 1260 → 800

8 → 800

```
    Scanner scn = new Scanner(System.in);
    int unit = scn.nextInt();
    int cost = unit * 100;
    if(cost > 1000){
        int discount = (cost * 10) / 100;
        cost = cost - discount;
        System.out.println(cost);
    }else{
        System.out.println(cost);
    }

}
```

7 → 700 → 700 > 1000 → false

skip

700

# Print Bonus

(salary * 5)/100

Problem | Submissions | Leaderboard | Discussions

The bonus in a company is given by Bonus= Salary * (5 / 100). A company decided to give a bonus of 5% to employees if his/her years of service is more than 5 years. Ask user for their salary and year of service and print the net bonus amount. If the years of service is less than or equal to 5, print 0, otherwise print Bonus calculated.

Scanner
salary → } input
yoe

```
if (yoe >5) {
    bonus = (salary *5) /100
    print (bonus);
}else {
    print (0);
}
```

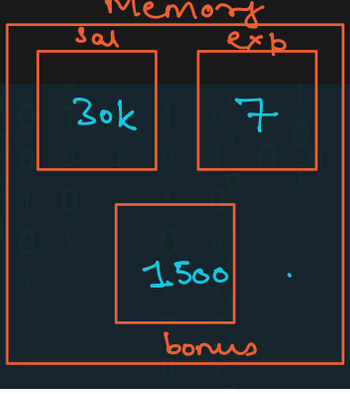
```java
public class Solution {

    public static void main(String[] args) {
        /* Enter your code here. Read input fro
        Scanner scn = new Scanner(System.in);
        int sal = scn.nextInt();
        int exp = scn.nextInt();
        if(exp > 5){
            int bonus = (sal * 5 ) / 100;
            System.out.println(bonus);
        }else{
            System.out.println(0);
        }
    }
}
```

30k 7 → 775 → true

30000 30k * 5 = 1500 / 100

1500



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# Tax or not

Problem | Submissions | Leaderboard | Discussions

Take income of a person as input from the user, print "No tax to be paid" if income is less than 500,000 and print "Tax to be paid" if income is greater than or equal to 500,000.

Input Format

tax

else

income < 5L

```java
/* Enter your code here. Read input from STDIN. I
Scanner scn = new Scanner(System.in);
int income = scn.nextInt();
if(income < 500000){
    System.out.println("No tax to be paid");
}else{
    System.out.println("Tax to be paid");
}
```

Ternary Operator ??

```java
/* Enter your code here. Read input from STDIN. Print output to STDOUT. Your c
Scanner scn = new Scanner(System.in);
int income = scn.nextInt();
System.out.println(income < 500000 ? "No tax to be paid" : "Tax to be paid");
```