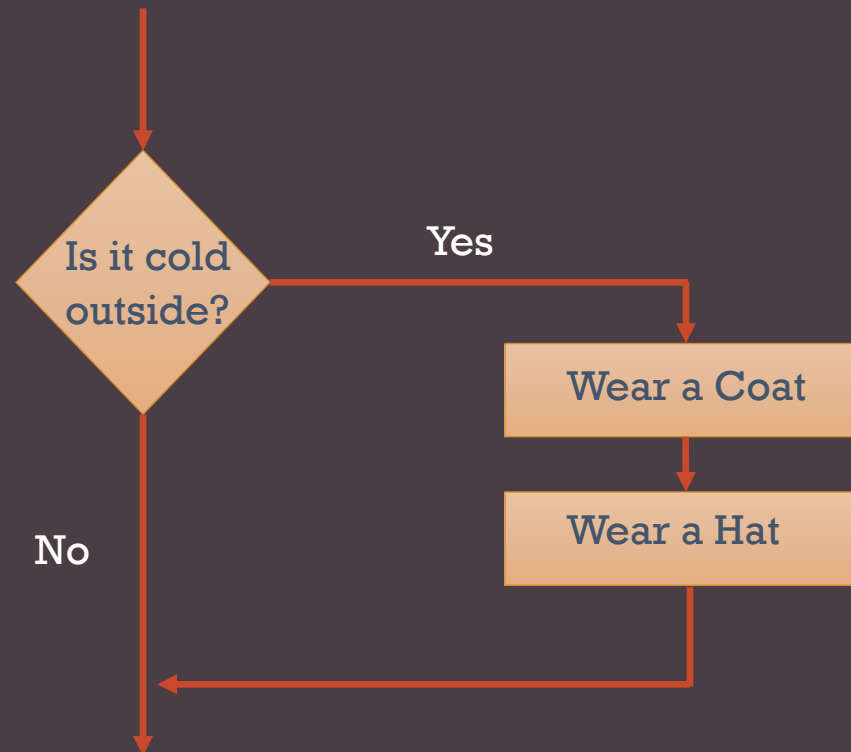IF Statements

IF Statements

The if statement evaluates a condition. If the condition evaluates to true, any statements in the subsequent code block are executed.

Syntax
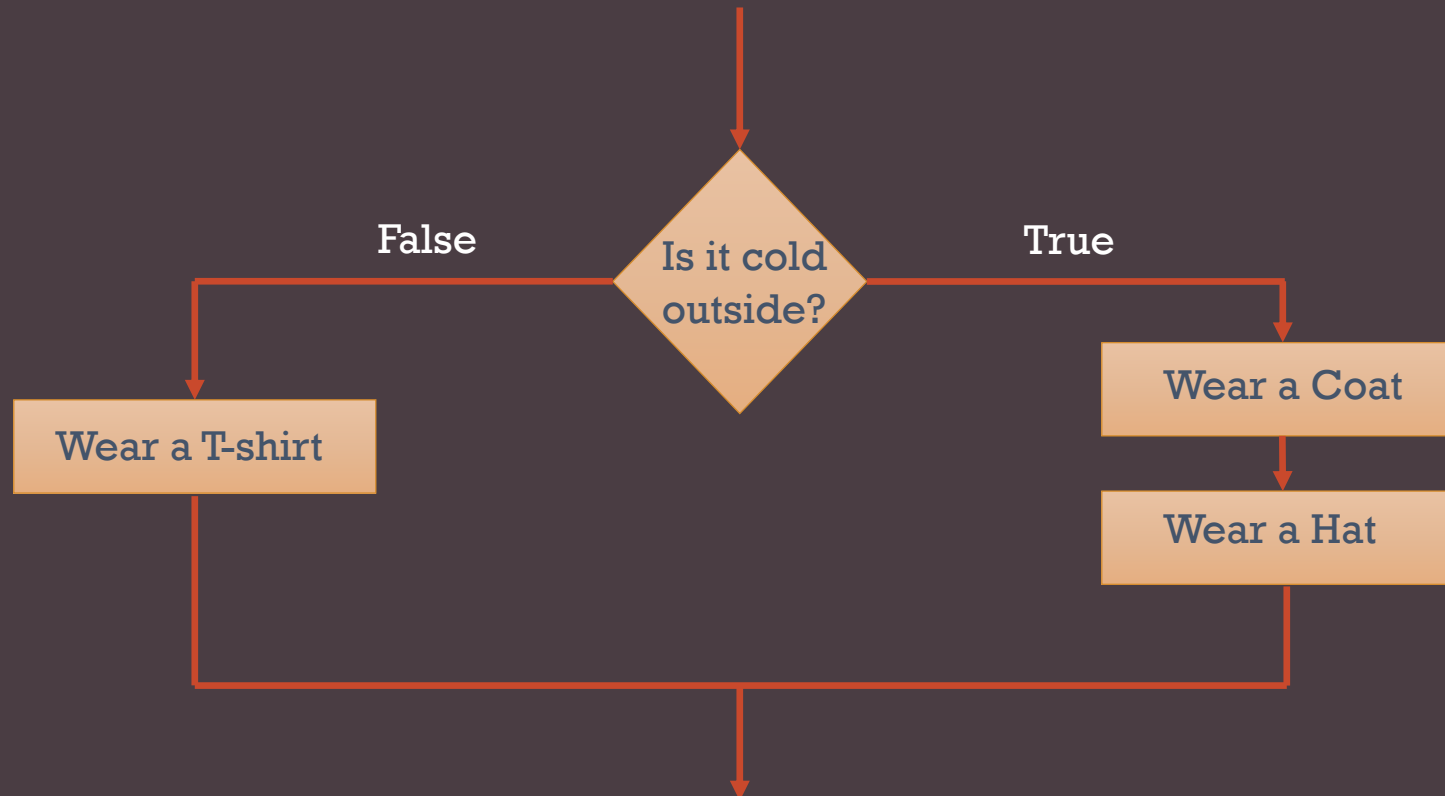
Task: What will be the output of this code?

```java
    int numberOfWaterMelon;
    boolean lotsOfWaterMelon;
    lotsOfWaterMelon=false;

    numberOfWaterMelon=40;

    if(numberOfWaterMelon>=20){
        System.out.println("I have more than 20 watermelon");
        lotsOfWaterMelon=true;
    }

    if(lotsOfWaterMelon){
        System.out.println("Good Job");
    }

    if(lotsOfWaterMelon==false){
        System.out.println("I need more watermelon");
    }
```

Cybertek

IF…ELSE Statements

The if…else statement checks a condition. If it resolves to true the first code block is executed. If the condition resolves to false, the second code block is run instead.

Syntax


```
if (score >= 50) {
    congratulate();
}
              ⌊_____⌋
              CODE TO EXECUTE IF VALUE IS TRUE
else {
    encourage();
}
          ⌊_____⌋
          CODE TO EXECUTE IF VALUE IS FALSE
```

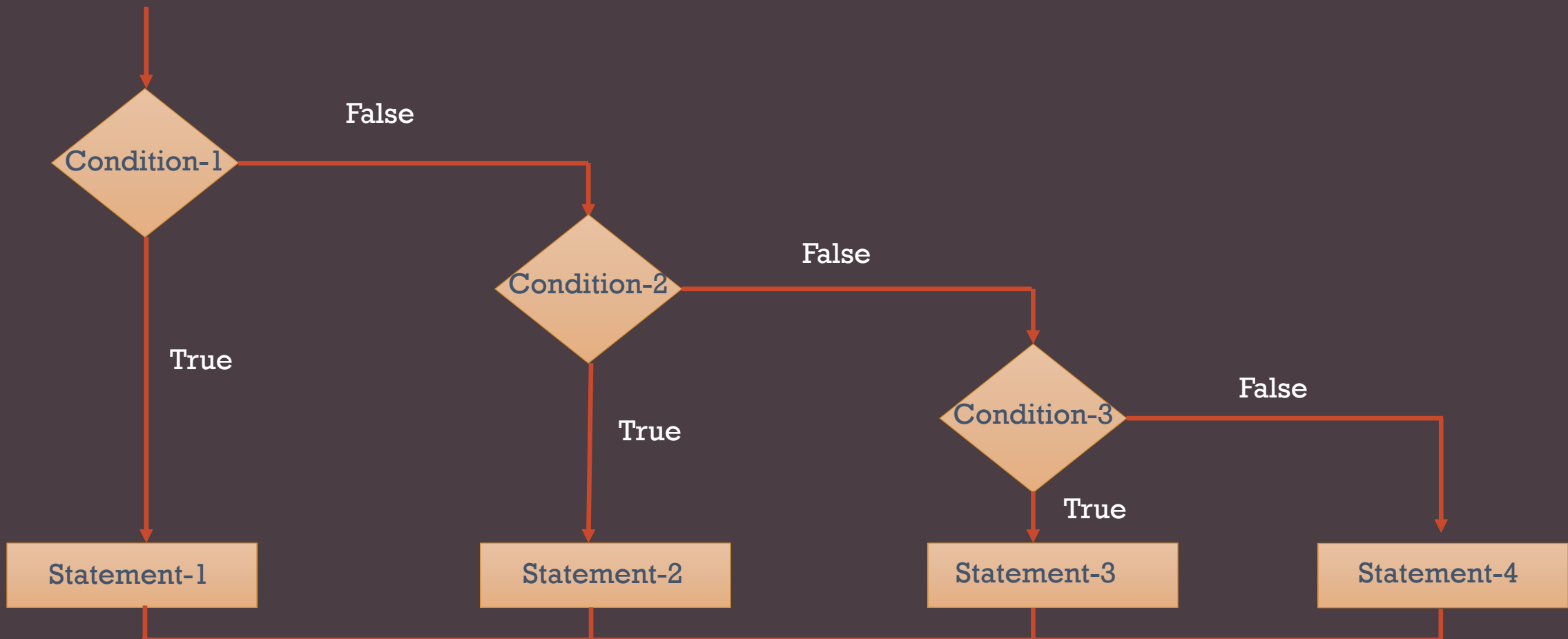● CONDITIONAL STATEMENT   ● CONDITION   ● IF CODE BLOCK   ● ELSE CODE BLOCK

Task

1. Write a Java program:
   1) Declare and initialize a number
   2) Display whether the number is an odd number or even number.

2. A triangle is valid if the sum of all the three angles is equal to 180 degrees. Write a program that declares three integers as angles and check whether a triangle is valid or not.

3. Write a Java program to implement following logic using if-else statement

   1. if hour is less than 12 noon, greet with Good Morning

   2. if hour is greater than or equal 12 noon but less than 3 pm, greet with Good Afternoon

   3. if hour is greater than or equal to 3 pm, greet with Good Evening

IF…ELSE IF…ELSE Statement

Multiple if…else statements can be nested to create an else if clause. It is used to make decision among several alternatives.

Syntax

```
if(condition1){
    statement1;
}else if(condition2){
    statement2;
}else if(condition3){
    statement3;
}else{
    statement4;
}
```

Cybertek

IF – ELSE IF - ELSE

IF – ELSE IF - ELSE


```java
int score = 800;                    ① expression result
                                       is false
if (score >= 5000) {                ② true && true
    System.out.println("Your score was >= to 5000");    result is true
} else if (score < 1000 && score >= 500) {
    System.out.println("Your score was < 1000 but >= 500");
} else {
    System.out.println("Your score was < 500");
}
                                    ④ jump here
                                    ③ execute line (code block)
```

IF – ELSE IF - ELSE

Task

1. Program :

- Declare 3 numbers

- Program should display which one is largest

2. Write a Java Program for the following logic:
    - If marks < 60, then print "Fail"
    - If marks >= 60, but less than 90, then print "Pass"
    - If marks >= 90, then print "Passed with Distinction"

Cybertek

Task

Write a program to implement following logic using if-else if-else statement
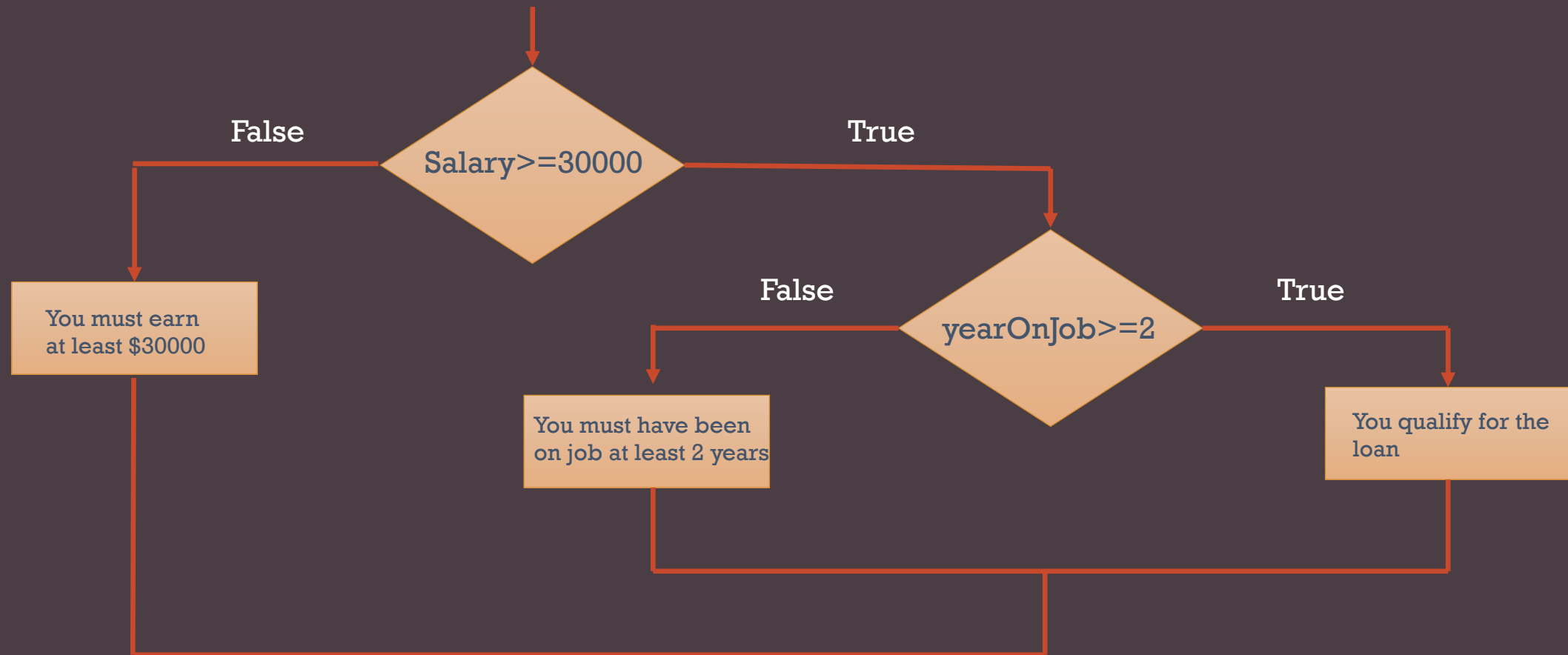
1. if hour is less than 12 noon, greet with Good Morning

2. if hour is greater than or equal 12 noon but less than 3 pm, greet with Good Afternoon

3. if hour is greater than or equal to 3 pm, greet with Good Evening

Task

The marks obtained by a student in 3 different subjects are input by the user. Your program should calculate the average of subjects. The student gets a grade as per the following rules:

AVERAGE	GRADE
90-100	A
80-89	B
70-79	C
60-69	D
0-59	F

Nested IF Statements

Syntax

```java
if(salary>=30000){
    if(yearsOnJob>=2){
        System.out.println("You qualify for the loan");
    }else{
        System.out.println("You must have been on your current job at least 2 years to qualify");
    }
}else{
    System.out.println("You must earn at least $30,000 per year");
}
```

Cybertek