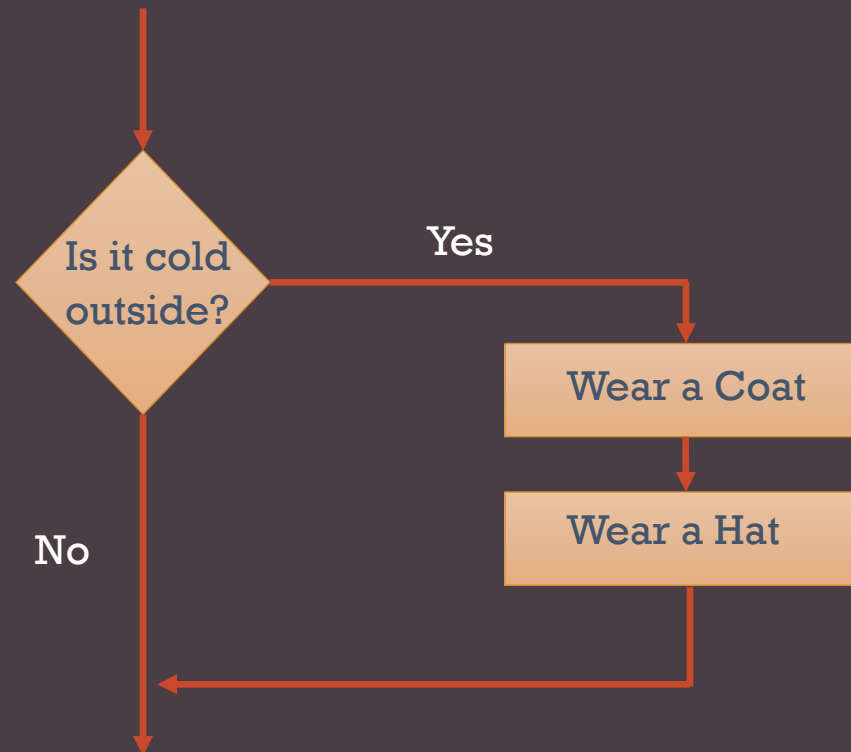




IF Statements

IF Statements

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

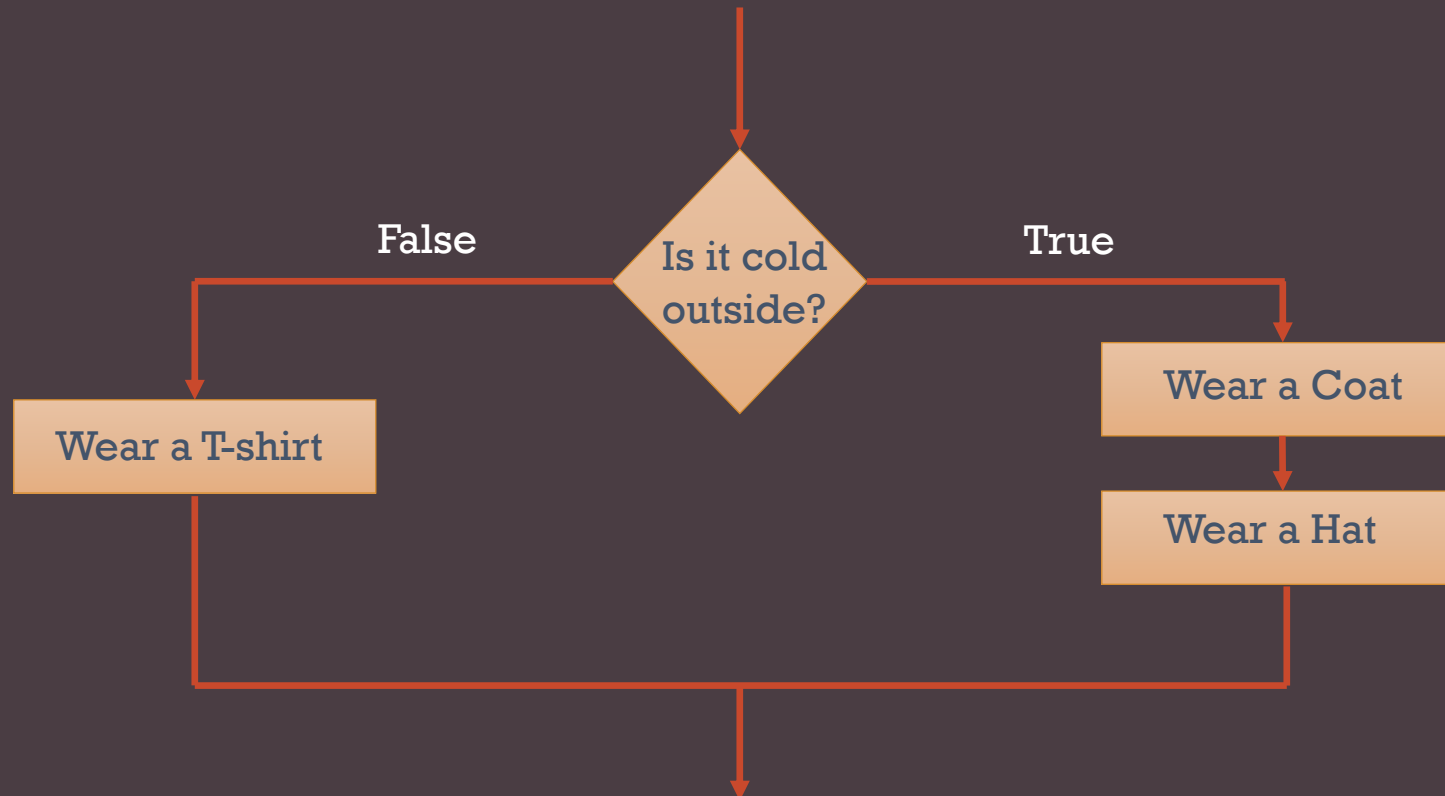


Syntax



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();  
}  
else {  
    encourage();  
}
```

CODE TO EXECUTE IF VALUE IS TRUE

CODE TO EXECUTE IF VALUE IS FALSE

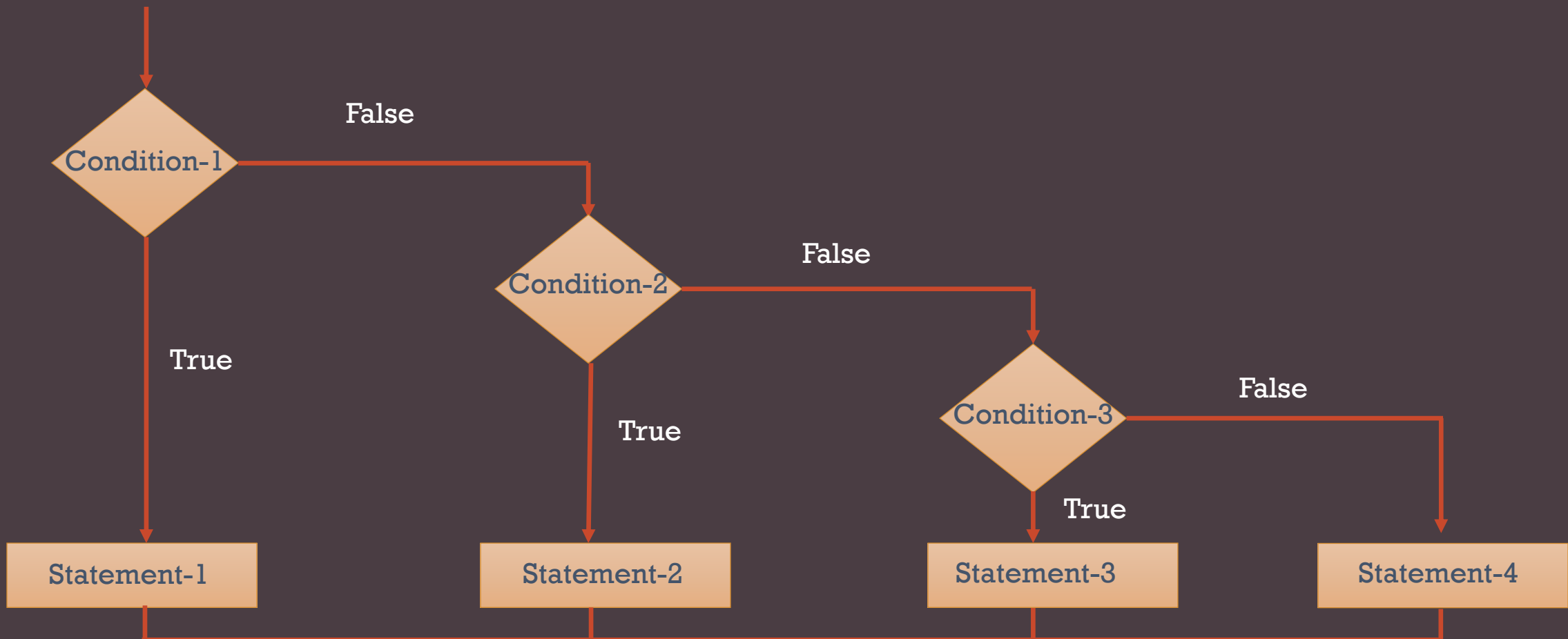
● CONDITIONAL STATEMENT ● CONDITION ● IF CODE BLOCK ● ELSE CODE BLOCK



Multi-Branch IF Statements

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;  
}
```


IF - ELSE IF - ELSE

```
int score = 6000;
```

1

expression result
is true

2

execute line (code block)

```
if (score >= 5000) {
```

```
    System.out.println("Your score was >= to 5000");
```

```
} else if (score < 1000 && score >= 500) {
```

```
    System.out.println("Your score was < 1000 but >= 500");
```

```
} else {
```

```
    System.out.println("Your score was < 500");
```

```
}
```

3

jump here

IF - ELSE IF - ELSE

```
int score = 800;
if (score >= 5000) {
    System.out.println("Your score was >= to 5000");
} else if (score < 1000 && score >= 500) {
    System.out.println("Your score was < 1000 but >= 500");
} else {
    System.out.println("Your score was < 500");
}
```

1 expression result is false

2 true && true result is true

3 execute line (code block)

4 jump here

IF - ELSE IF - ELSE

```
int score = 200;
if (score >= 5000) {
    System.out.println("Your score was >= to 5000");
} else if (score < 1000 && score >= 500) {
    System.out.println("Your score was < 1000 but >= 500");
} else {
    System.out.println("Your score was < 500");
}
```

Diagram illustrating the execution flow of the code:

- 1 false (points to the condition `score >= 5000`)
- 2 expression result is false (points to the condition `score < 1000 && score >= 500`)
- 3 execute line (code block) (points to the code block `System.out.println("Your score was < 500");`)
- 4 jump here (points to the end of the code block)

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”

Task

Write a program to implement following logic using **if-else if-else** statement

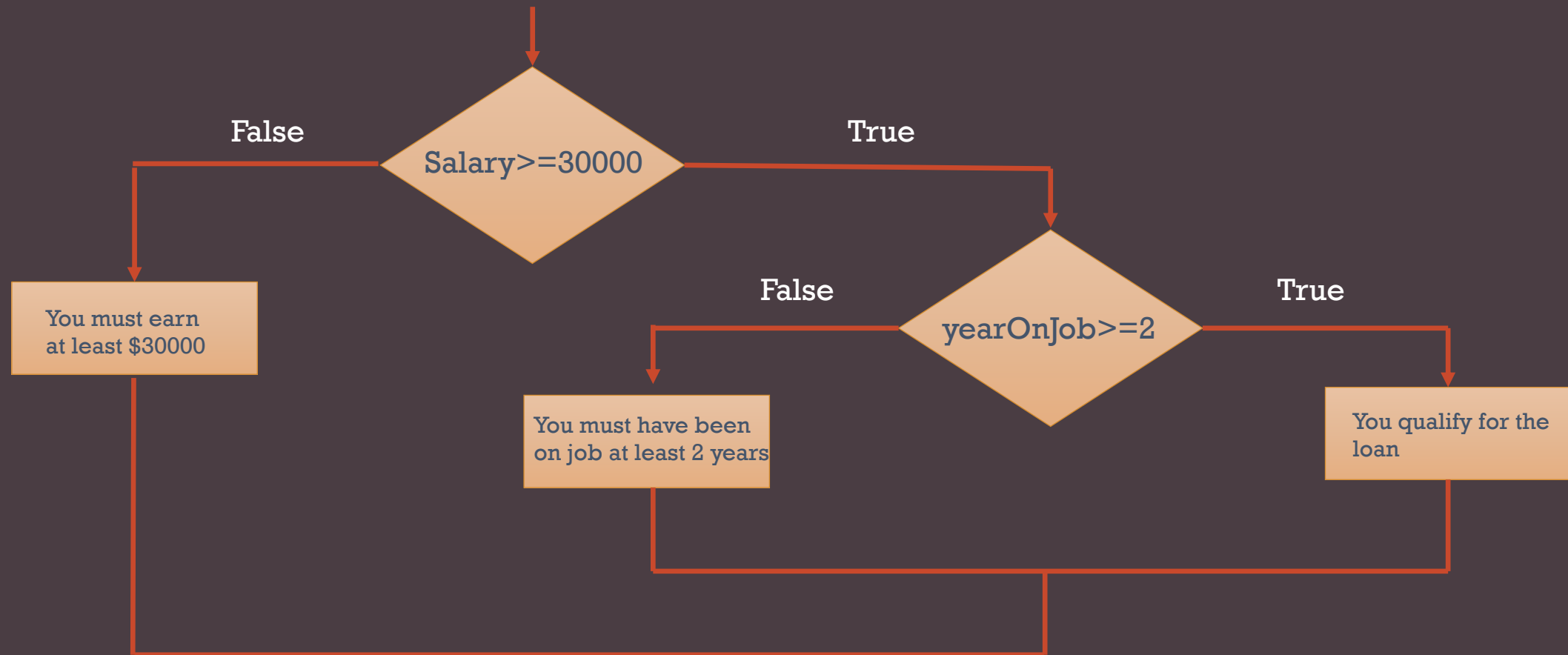
1. if hour is less than 12 noon, greet with Good Morning
2. if hour is greater than or equal 12 noon but less than 3 pm, greet with Good Afternoon
3. if hour is greater than or equal to 3 pm, greet with Good Evening

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

```
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");  
}
```