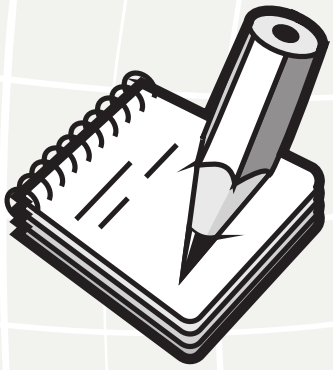
Cheet Sheet

Conditional Statements



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Conditional Statements

"If this happens, do this. Otherwise, do something else."

Types of Conditional Statements

- if statement
- if-else statement
- if-else if-else ladder
- nested if
- switch statement

1. if statement

Executes a block of code only if the condition is true.

Sysntax : -

```
if (condition) {
   // code runs if condition is true
}
```

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Example:

```java
import java.util.Scanner;

class Demo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int age = sc.nextInt();

        if (age >= 18) {
        System.out.println("You are eligible to vote.");
        }
    }
}
```

Outout:

```
D:\SHRADDHESH-08>javac Demo.java

D:\SHRADDHESH-08>java Demo
18
You are eligible to vote.

D:\SHRADDHESH-08>
```

2.IF-ELSE STATEMENT

It is used to take a decision based on a condition.

Syntax

```
if (condition) {
   // code to execute if condition is true
} else {
   // code to execute if condition is false
}

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```

Exmple

```java
import java.util.Scanner;

public class Demo {
    public static void main(String[] args) {
        int num = 5;

        if (num % 2 == 0) {
            System.out.println("Even number");
        } else {
            System.out.println("Odd number");
        }
    }
}
```

Outout:

```
D:\SHRADDHESH-08>javac Demo.java

D:\SHRADDHESH-08>java Demo
Odd number

D:\SHRADDHESH-08>
```

3.Else if ladder

It is used when we want to check many conditions one by one. Only one block runs.

Syntax

```
if (condition1) {
   // run this if condition1 is true
} else if (condition2) {
   // run this if condition2 is true
} else {
   // run this if none is true
}
```

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Exmple

```java
import java.util.Scanner;

public class Demo{
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter your age: ");
        int age = sc.nextInt();

        if (age < 13) {
            System.out.println("Child");
        } else if (age >= 13 && age < 20) {
            System.out.println("Teenager");
        } else if (age >= 20 && age < 60) {
            System.out.println("Adult");
        } else {
            System.out.println("Senior Citizen");
        }
    }
}
```

Output

```
D:\SHRADDHESH-08>javac Demo.java

D:\SHRADDHESH-08>java Demo
Enter your age: 17
Teenager

D:\SHRADDHESH-08>
```

4.Nested if statement

Nested If: An if-statement inside another if.
Used when one condition depends on another.

Syntax

```
if (condition1) {
   if (condition2) {
      // code runs if both condition1 and condition2 are true
   }
    else{
   }
}
else{
}
```

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Exmple

```java
import java.util.Scanner;

class Demo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter age: ");
        int age = sc.nextInt();

        System.out.print("Enter marks: ");
        int marks = sc.nextInt();

        if (age >= 18) {                    // outer if
            if (marks >= 80) {              // nested if
                System.out.println("Adult with good marks");
            } else {
                System.out.println("Adult but marks are low");
            }
        } else {
            System.out.println("Not an adult");
        }
    }
}
```

Output

```
D:\SHRADDHESH-08>javac Demo.java

D:\SHRADDHESH-08>java Demo
Enter age: 18
Enter marks: 87
Adult with good marks

D:\SHRADDHESH-08>
```

5.Switch case

Switch case is a decision-making statement used to select one block of code from many options based on a value.

Syntax

```
switch(expression) {
   case value1:
      // code block 1
      break;
   case value2:
      // code block 2
      break;
   case value3:
      // code block 3
      break;
   ...
   default:
      // code block if none of the cases match
}
```

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Notes:

- **expression can be int, char, String (and some more types in latest Java)**
- **break stops execution after matching case**
- **default runs if no case matches**

Exmple

```java
import java.util.Scanner;
public class Demo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.print("Enter day number (1-7): ");
        int day = sc.nextInt();

        switch(day) {
            case 1:
                System.out.println("Sunday");
                break;
            case 2:
                System.out.println("Monday");
                break;
            case 3:
                System.out.println("Tuesday");
                break;
            case 4:
                System.out.println("Wednesday");
                break;
            case 5:
                System.out.println("Thursday");
                break;
            case 6:
                System.out.println("Friday");
                break;
            case 7:
                System.out.println("Saturday");
                break;
            default:
                System.out.println("Invalid day number");
        }
    }
}
```

Output

```
D:\SHRADDHESH-08>javac Demo.java

D:\SHRADDHESH-08>java Demo
Enter day number (1-7): 5
Thursday

D:\SHRADDHESH-08>
```