Switch Statement

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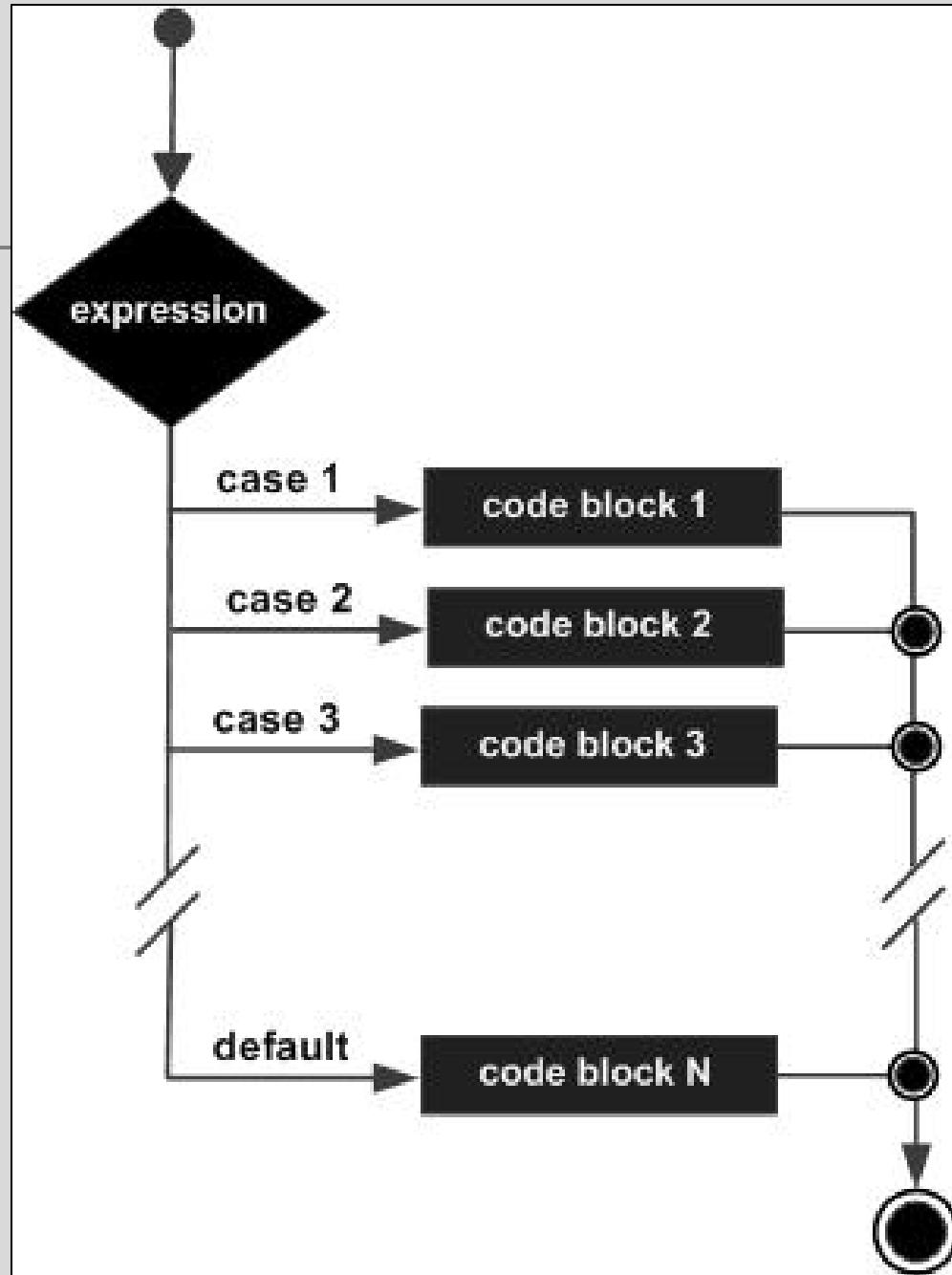
The **switch** statement

- The switch statement works in exactly the same way as a **set of if** statements,
  but is more compact and readable.

- The *switch statement* switches on a single **value** to one of an arbitrary number of **cases**.

The **switch** statement

The switch statement

- A *switch* statement can have any number of **case** labels.

- The **default** case is optional; if no default is given, it may happen that no case is executed.

- Can *switch* on **int**, **char** or **String**.

The switch statement – int example

```java
public static void main(String[] args) {
    int day = 3;

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

```
Driver.main({ });
Wednesday
```

The switch statement – String example

```java
public static void main(String[] args) {
    String dayofWeek = "Mon";

    switch (dayofWeek.toLowerCase()){
        case "mon"   -> System.out.println("Weekday");
        case "tue"   -> System.out.println("Weekday");
        case "wed"   -> System.out.println("Weekday");
        case "thurs" -> System.out.println("Weekday");
        case "fri"   -> System.out.println("Weekday");
        case "sat"  -> System.out.println("Weekend");
        case "sun"  -> System.out.println("Weekend");
        default -> System.out.println("Invalid day");
    }
}
```

```
Driver.main({ });
Weekday
```

The switch statement – String example

DRY code – Don't Repeat Yourself!

```java
public static void main(String[] args) {
    String dayofWeek = "Mon";

    switch (dayofWeek.toLowerCase()){
        case "mon", "tue", "wed", "thurs", "fri"
            -> System.out.println("Weekday");

        case "sat", "sun"
            -> System.out.println("Weekend");

        default -> System.out.println("Invalid day");
    }
}
```

```
Driver.main({ });
Weekday
```

The switch statement – char example

```java
public static void main(String[] args) {
    char alphabetChar = 'B';

    switch (alphabetChar){
        case 'A'    -> System.out.println("Apple");
        case 'B'    -> System.out.println("Ball");
        case 'C'    -> System.out.println("Cat");
        case 'D'    -> System.out.println("Dog");
        case 'E'    -> System.out.println("Elephant");

        default -> System.out.println("We don't have that character on our list yet");

    }
}
```

Driver.main({ });
Ball

When is switch used?

- When there is a short number of options with exact values ;

- Menus are a good example of this;

- We will use switch statements to, given the user choice, will invoke a particular method.

Questions?