Topic 7

Switch Statement

Switch

Monday	Tuesday	Wednesday & Thursday	Friday	Weekends
2X1 	 $49.00	 $35.00	 $30.00	No promos

Using IFs

```
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

if (day.equals("Monday")){
  System.out.println("2x1 in movie tickets!");
}

if (day.equals("Tuesday")){
  System.out.println("Popcorn for $49.00");
}

if (day.equals("Wednesday") || day.equals("Thursday")){
  System.out.println("Movie tickets for $35.00");
}

if (day.equals("Friday"))
  System.out.println("Any coffee for $30.00");
}


if (day.equals("Saturday") || day.equals("Sunday")){
  System.out.println("No promos!");
}

keyboard.close();
```

Using IFs

```
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

if (day.equals("Monday")){
  System.out.println("2x1 in movie tickets!");
}

if (day.equals("Tuesday")){
  System.out.println("Popcorn for $49.00");
}

if (day.equals("Wednesday") || day.equals("Thursday")){
  System.out.println("Movie tickets for $35.00");
}

if (day.equals("Friday"))
  System.out.println("Any coffee for $30.00");
}

if (day.equals("Saturday") || day.equals("Sunday")){
  System.out.println("No promos!");
}

keyboard.close();
```

Problems:

1. Does not account for any spelling mistakes
2. New condition for each scenario
3. Hard to understand

Using IF-ELSE

```
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

if (day.equals("Monday")){
  System.out.println("2x1 in movie tickets");
} else if (day.equals("Tuesday")){
  System.out.println("Popcorn for $49.00");
} else if (day.equals("Wednesday") || day.equals("Thursday")){
  System.out.println("Movie tickets for $35.00");
} else if (day.equals("Friday")){
  System.out.println("Any coffee for $30.00");
} else if (day.equals("Saturday") || day.equals("Sunday")){
  System.out.println("No promos :(");
} else {
  System.out.println("Invalid day! try again");
}

keyboard.close();
```

Usando IF-ELSE

```java
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

if (day.equals("Monday")){
  System.out.println("2x1 in movie tickets");
} else if (day.equals("Tuesday")){
  System.out.println("Popcorn for $49.00");
} else if (day.equals("Wednesday") || day.equals("Thursday")){
  System.out.println("Movie tickets for $35.00");
} else if (day.equals("Friday")){
  System.out.println("Any coffee for $30.00");
} else if (day.equals("Saturday") || day.equals("Sunday")){
  System.out.println("No promos :(");
} else {
  System.out.println("Invalid day! try again");
}

keyboard.close();
```

Problems:

1. New condition for each scenario
2. Long and hard to read

Switch

A switch is a conditional instruction that allows us to specify multiple paths depending on an integral expression (many paths).

We can use a numeric variable or text to specify the different paths.

Switch has the following components

1. Switch
2. Case
3. Default (optional)

```java
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

switch(day){
  case "Monday":
    System.out.println("2x1 in movie tickets");
    break;
  case "Tuesday":
    System.out.println("Popcorn for $49.00");
    break;
  case "Wednesday":
    System.out.println("Movie tickets for $35.00");
    break;
  case "Friday":
    System.out.println("Any coffee for $30.00");
    break;
}

keyboard.close();
```

switch(<integration expression>)

Each path is specified using:
case <scenario1>:

```java
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

switch(day){
  case "Monday":
    System.out.println("2x1 in movie tickets");
    break;
  case "Tuesday":
    System.out.println("Popcorn for $49.00");
    break;
  case "Wednesday":
    System.out.println("Movie tickets for $35.00");
    break;
  case "Friday":
    System.out.println("Any coffee for $30.00");
    break;
}

keyboard.close();
```

break indicates that the you will exit the **switch {}**

If it is not added, the next **case** will be executed

```java
Scanner keyboard = new Scanner(System.in);
System.out.print("What day is today?: ");
String day = keyboard.nextLine();

switch(day){
  case "Monday":
    System.out.println("2x1 in movie tickets");
    break;
  case "Tuesday":
    System.out.println("Popcorn for $49.00");
    break;
  case "Wednesday":
  case "Thursday":
    System.out.println("Movie tickets for $35.00");
    break;
  case "Friday":
    System.out.println("Any coffee for $30.00");
    break;
  case "Saturday":
  case "Sunday":
    System.out.println("No promos :(");
    break;
  default:
    System.out.println("Invalid day! try again");
}

keyboard.close();
```

If you want to group multiple scenarios together, you can use the following structure:

```
case <scenario1>:
case <scenario2>:
case <scenario3>:
   code;
   break;
```

If none of the paths are selected, then the default path will be executed

```
default:
```

```java
char traffic_light = 'R';

switch(traffic_light) {
  case 'R': //red light
    System.out.println("Stop!");
  case 'Y': //yellow light
    System.out.println("Slow down!");
  case 'G': //green light
    System.out.println("Go!");
  default:
    System.out.println("Wrong color!");
}
```

```
> Stop!
> Slow down!
> Go!
> Wrong color!
```