

A blurred background image of a computer screen displaying code. The code is in a light blue/cyan color on a dark background. It appears to be a configuration script for a mirror module, with lines like 'mirror_mod = modifier_ob...', 'set mirror object to mirror...', 'mirror_mod.mirror_object = ...', and three conditional blocks for 'MIRROR_X', 'MIRROR_Y', and 'MIRROR_Z' each setting 'use_x', 'use_y', and 'use_z' flags.

```
mirror_mod = modifier_ob...
set mirror object to mirror...
mirror_mod.mirror_object = ...

operation == "MIRROR_X":
mirror_mod.use_x = True
mirror_mod.use_y = False
mirror_mod.use_z = False
operation == "MIRROR_Y":
mirror_mod.use_x = False
mirror_mod.use_y = True
mirror_mod.use_z = False
operation == "MIRROR_Z":
mirror_mod.use_x = False
mirror_mod.use_y = False
```

Topic 7

Switch Statement

Switch

Monday

Tuesday

**Wednesday
& Thursday**

Friday

Weekends



\$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

```
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)

**switch(<integration
expression>)**

Each path is specified using:
case <scenario1>:

```
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();
```

```
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

```
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:
```

```
01 char traffic_light = 'R';
02
03 switch(traffic_light) {
04     case 'R': //red light
05         System.out.println("Stop!");
06     case 'Y': //yellow light
07         System.out.println("Slow down!");
08     case 'G': //green light
09         System.out.println("Go!");
10     default:
11         System.out.println("Wrong color!");
12 }
```

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