Selection

Mangat

Program flow

- So far our programs run a series of steps in order. Each time the program is **executed** the **program flow** is identical.

- Today we will learn how we can write code that makes decisions on what to do next based on what happens during the program execution

If statements

Structure:

Depending on a condition, your program will decide which section of code to execute

```
if (Condition) {
        …
} else {
        …
}
```

Example:

The following code will output a different result based on a value of a variable.

```
if (age > 18) {
   System.out.println("vote");
} else {
   System.out.println("Go
   home.");
}
```

A more Complex Scenario

```
if (age >= 12 && age < 65) {
    price = 9.25;
    if (reply == 'Y' || reply ==
    'y') {
            if (isSpecialFeature) {
                    price -= 1.00;
            } else {
                    price -= 2.00;
            }
    }
} else {
    price = 5.25;
}
```

- && is the **Boolean** operation for **AND**
- || is the **Boolean** operation for **OR**
- All conditions must have a Boolean (T/F) result to work
- Notice the indentation, this example shows **nested if statements**
- In the example, the second if statement will only run if the person is within the correct age range.

Exercise

- Design a program that asks a user fro their name and their current mark in all four courses.
- It should then calculate their average and output the appropriate grade letter
- The output message should include their name and be formatted well
- Do not forget to follow proper conventions and include commenting.

Questions?

- Next - repetition