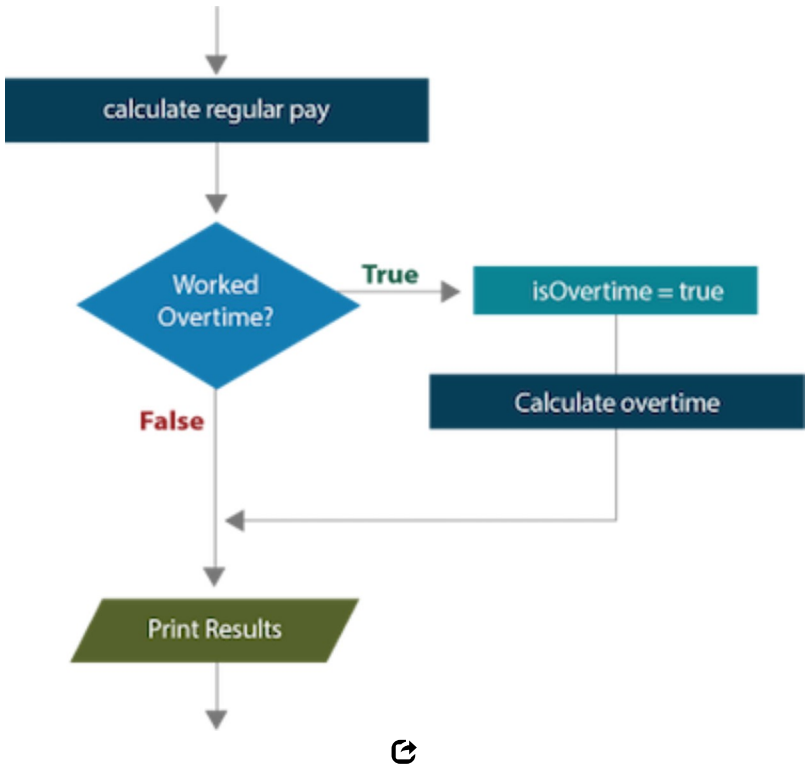
03.03 Virtual Lecture Notes (Part 2)

A classic assignment in an introductory programming course is to determine an employee's salary based on the hourly pay rate and the number of hours worked. If the employee works more than 40 hours, time-and-a-half is paid for the overtime hours.
The SalaryV1 class is a program designed to calculate the regular or overtime salary of an employee.

- Carefully study the source code for the SalaryV1 class you downloaded previously.
- Run the program and observe its performance and output.

This overall structure of the SalaryV1 class should seem very familiar to you after studying the AdmissionFeeV1 class. Take a close look at the section of the flowchart shown below.



You will notice some decision points where the flow of control branches based on evaluation of a boolean condition. Compare the flowchart with the corresponding code segment below.

```
...
```

```
   double totalSalary = totalHours * payRate;
   boolean isOvertime = false;
   if(totalHours > 40)
   {
      isOvertime = true;
      totalSalary += (totalHours - 40) * payRate / 2;
   }
…
```

Let's break it down and analyze the code. What is happening?

- Calculates the default value for **`totalSalary`**.
- Declares the variable **`isOvertime`** to be a **`boolean`** primitive data type and assigns **`false`** as the default value.
- Evaluates the boolean expression to determine if greater than 40 hours were worked. If true, the program will continue by executing the statements within the if block. Otherwise, those statements are skipped.
- Within the if block, isOvertime is assigned a new value of true. Also, the additional overtime pay is calculated and added to the **`totalSalary`** variable.

Continue to analyze the program line by line and make sure you understand the syntax and purpose of each statement.

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