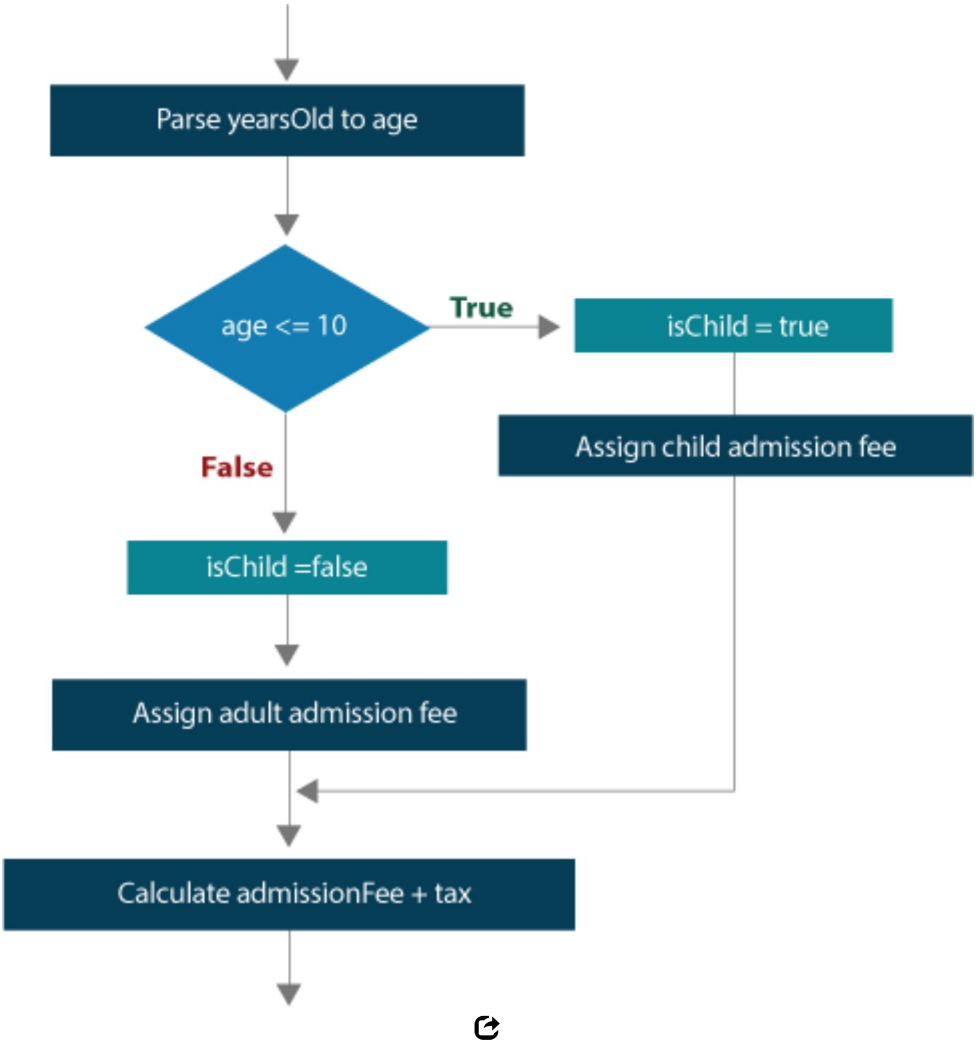
03.04 Virtual Lecture Notes (Part 1)

The AdmissionFeeV2 class is a minor variation of the previous version. Both programs are designed to calculate the admission fee to an event, based on a person's age. Carefully study the structure of this flowchart.



- Examine the source code for the AdmissionFeeV2 class in relation to the flowchart.
- Analyze the program line by line and make sure you understand the syntax and purpose of each statement in the program.
- Run the program and observe the performance and the output.

The segment of code shown below is where "the **`boolean`** meets the code" in the program. Notice that

the block of code for the conditional now contains another one of Java's reserved words: **`else`**. There is a corresponding change in the flowchart that reflects the double branching capability of the **`if-else`** statement block.

```
…
      if(age <= 10)
      {
         isChild = true;
         admissionFee = 4.50;
      }
      else
      {
         isChild = false;
         admissionFee = 6.00;
      }
      admissionFee += admissionFee * tax;
…
```

How it works:

- Evaluates a **`boolean`** expression that tests whether the age entered by the user is less than or equal to 10. If the age is less than or equal to 10, the condition is true; otherwise, it is **`false`**.
- When the **`if`** condition is **`true`**, the first block of code is executed. The value **`true`** is assigned to **`isChild`** and the children's admission fee (4.50) is set. Then the flow of control resumes after the closing bracket of the **`else`**.
- When the **`if`** condition is **`false`**, the second block of code within the **`else`** is executed. The value of **`false`** is assigned to **`isChild`**, and the adult admission fee (6.00) is set. The flow of control resumes on the next line.
- Calculates the admission fee including the tax.

Before moving on, compare the two versions of the program side by side. Condition statements with two branches will be used repeatedly throughout the course when you need to make decisions. Be sure you understand how the flow of control can change, based on evaluation of a **`boolean`** expression.

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