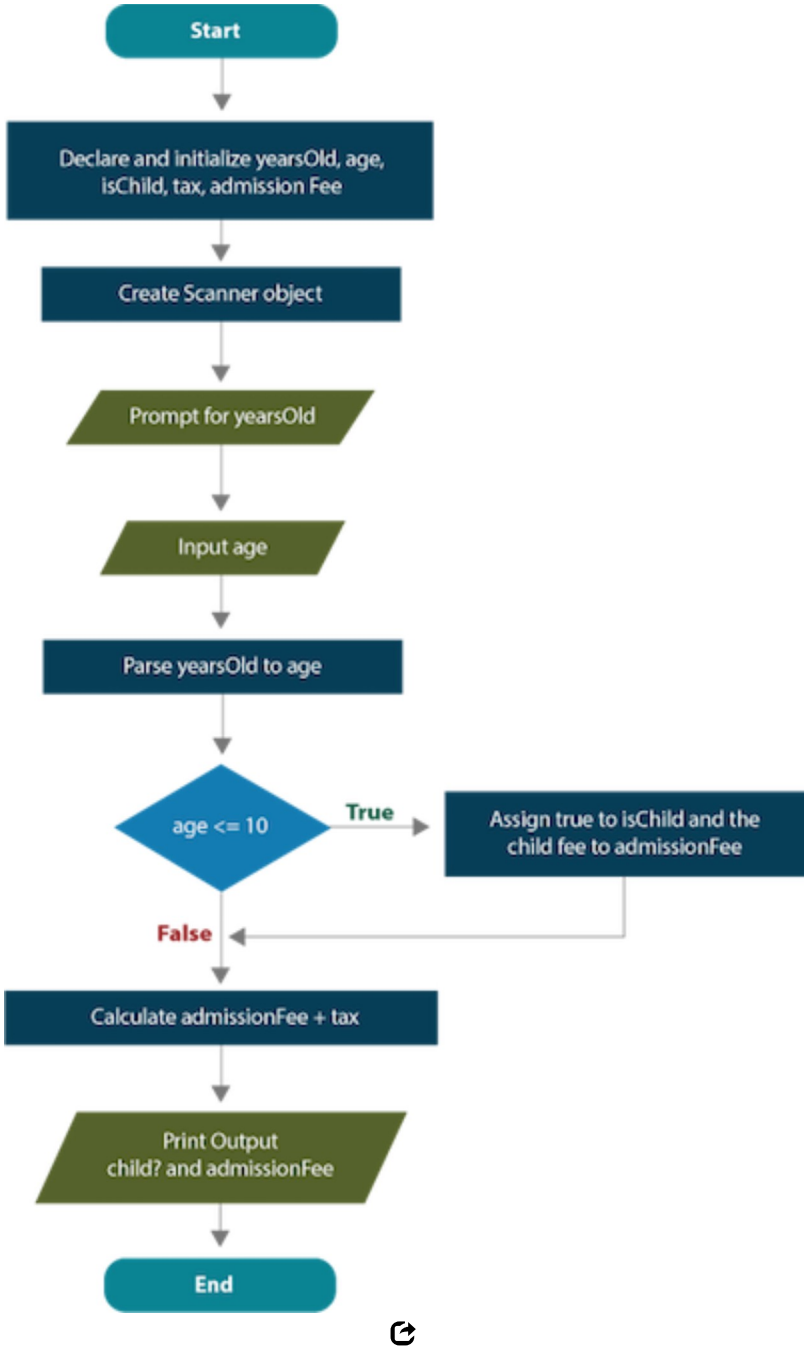
03.03 Virtual Lecture Notes (Part 1)

The AdmissionFeeV1 class is a program designed to calculate the admission fee to an event based on a person's age. Carefully study the structure of this flowchart; find the input, processing, and output sections.



- Open the AdmissionsFeeV1 class and compare the source code 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.

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

What's happening in the code? Let's analyze!

- Declares **isChild** to be a **boolean** primitive data type and initializes it to **false**.
- Declares **admissionFee** to be a **double** primitive data type and assigns 6.00, the cost of a non-child, as the variable's initial value.
- The **if** statement, evaluates the **boolean** expression to determine 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 expression is **true** and the flow of control will continue within the **if** block. Otherwise, meaning the expression is **false**, the program will skip over the statements within the **if** block.
- When the **if** condition evaluates to **true**, new values are assigned to **isChild** and **admissionFee**. Since the person is a child, the values **true** and 4.50 are needed in place of the "not a child" values.
- Calculates the admission fee using the value appropriate for a child or someone who is "not a child".

Conditional statements must be syntactically correct. Improper **boolean** expressions, missing parentheses, and misplaced semicolons are frequent sources of error. Stylistically, readability will be improved by following a strict indentation scheme for all the statements within an **if** block.

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