Switch Statement

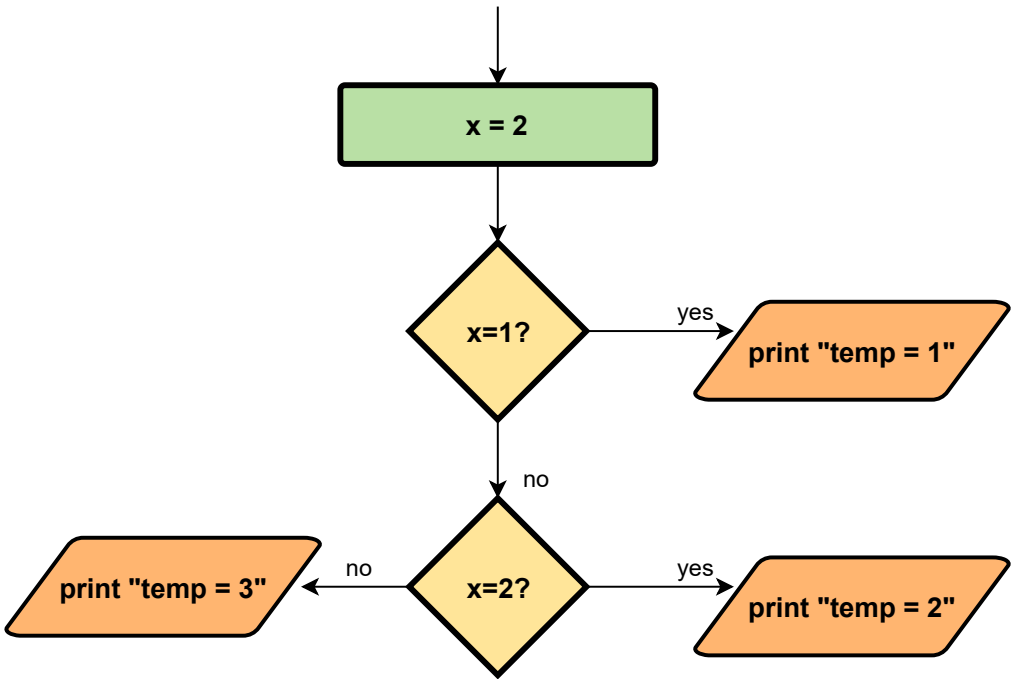
This lesson introduces the switch statement, its basic syntax and how it is written using an example

We'll cover the following

The switch case Construct

This tests an input variable for equality with any number of cases and then executes the corresponding code. The syntax follows:

```
#include <iostream>
using namespace std;
int main()
{
  int x = 2;
  int temp;
    switch (x) {
    case 1:
        temp = 1;
        break;
    case 2:
        temp = 2;
        break;
    default:
        temp = 3;
        break;
    }
  cout << "Value of temp is: "<< temp << endl;
  return 0;
}
```



Flowchart of switch case

Explanation

Here is a line-by-line explanation:

- **Line 7:** The opening line is very similar to the `if` construct, described in previous lesson. The only difference is that the `switch` case construct **only** uses `int` values and character *constants* **or** character *literals*. For this reason, the **switch-case** can come in handy, but it is limited to these circumstances.
- **Line 8:** For **each** expected value, code a line such as this one. The **1** means that if `x` **does** contain an integer value equal to **1**, execution will begin following the *colon* on this line.
- **Line 9:** Code is executed for that specific case.
- **Line 10:** contains a `break` statement that forces execution *outside* of the `switch` block.
- **Line 14:** The `default` block is similar to the `else` block in a normal conditional. It is chosen if **none** of the *previous* cases matched the value of the *condition* variable.

> **Note:** The `break` statement can be under-used to the programmer's

> advantage. If *multiple* values of the condition variable would lead to executing the same code, the cases can be listed one after another.

The example below shows how cases can be listed one after another in case *multiple* values of condition variable execute the same code.

```
#include <iostream>
using namespace std;
int main()
{
  int a=2;    //try changing the value of a to 2 or 3 and then observe the output
  int temp;
  switch (a)
  {
    case 1:
    case 2:
    case 3:
      temp = 3;
      break;
    case 4:
      temp = 5;
      break;
    default:
      temp = 4;
      break;
  }
  cout << "Value of temp is: "<< temp <<endl;
  return 0;
}
```

Try changing the value of `a` above to **2**, **3** or **4** and then see the value of `temp` in output.

Now let's look at the *conditional expressions* in the next lesson.