What happens?

```cpp
int count = 3;
while(count-- > 0)
    cout << count << " ";
```

What happens?

```cpp
int x = 10;
do
{
    cout << x << endl;
    x = x - 3;
}while(x > 0);
```

What happens?

```cpp
int x = 10;
while(x > 0)
{
    cout << x << endl;
    x = x - 3;
}
```
What happens?

```cpp
int count = 1;
while(++count < 5)
    cout << 2 * count << endl;
```
cin >> n; //assume n is now a positive int
int a = 0;
int b = 1;
int c;
do {
c = a + b;
a = b;
b = c;
} while(n-- > 1)
cout << c << endl;

Consider the following two lines of code:
int num;
cin >> num;
Write a code segment that will accomplish the following. If num is less than or equal to 1 do nothing. Otherwise, if num is even, replace it with num/2, or if num is odd, replace it by 3*num+1. Continue this until num reaches 1.

The switch Statement
In some previous examples we used the nested if-else structure to choose from among a range or set of values. In some instances this can be as easily accomplished using the switch statement.
switch Syntax
switch (controlling expression) {
case value 1: statements;
case value 2: statements;
...
case value n: statements;
};

The controlling expression
The controlling expression must be of one of the following types: bool, enum constant, integer, or character. Floats, doubles, long doubles, etc. would not be legitimate controlling expressions.

How does switch work?
The value of the controlling expression enclosed in () is compared to the values listed in the cases. Execution of the statements begins with that case and continues down the remainder of the cases, unless a break instruction is executed.
Example

Suppose that \textit{roll} is a variable containing an integer in the range 2 to 12, which represents the roll of a pair of dice. Look at the switch statement on the following slide and determine what it is doing.

\begin{verbatim}
switch(roll){
    case 1:
    case 2:
    case 3:
        cout << "You Lose\n"
        break;
    case 7:
    case 11:
        cout << "You win\n"
        break;
    default:
        cout << "Your point is \"<< roll
        << \". You must continue rolling.\n" << "until 7 or the point is rolled.\n";
}
\end{verbatim}