```cpp
#include <iostream>
using namespace std;

int main(
)
{
    int count;
    for (count = 0; count < 500; count++)
        cout << "I will not throw paper airplanes in class."
    return 0;
}
```
Recall Conditionals

```cpp
if (user_input == "I’m Blue") {
    cout << "Da ba dee da ba daa" << endl;
}
```

• Only executes once

• What if the user makes a mistake? Did we only get one shot?
Loops

• Allow us to repeat over and over again until we have met some condition
  • May be relational condition
  • May be incremental or fixed number of time

• Examples of real life loops:
  
  Daily routine
  Class schedule
  Sweeping floor
  Walking
While Loop

• Like an if statement but do it until the condition is met, don’t just move on if it doesn’t evaluate on the first go

• Use a while loop when you don’t know how many times the code will have to execute

• Real life examples:

  while raining → then keep raincoat on
  while hungry → eat
  while taking test → stay silent
While Loop Example

```cpp
#include <iostream>
#include <ctime>
#include <cstdlib>
using namespace std;

int main () {
    srand(time(NULL));
    int user_num = 0;
    int correct_number = rand() % 10 + 1;
    cout << "Give a number between 1 and 10: " << endl;
    cin >> user_num;
    while (user_num != correct_number) {
        cout << "Give a number between 1 and 10: " << endl;
        cin >> user_num;
    }
    cout << "You got the correct number!" << endl;
    return 0;
}
```

Do While

- While loops only start if the condition is initially true.
- Maybe we can’t determine if it needs to run until we execute that code once.
- Do while loops run the code once and then check to see if it should keep running.
Do While Example

```cpp
#include <iostream>
#include <ctime>
#include <cstdlib>
using namespace std;

int main () {
    srand(time(NULL));
    int user_num = 0;
    int correct_number = rand() % 10 + 1;
    cout << "Give a number between 1 and 10: " << endl;
    cin >> user_num;
    do {
        cout << "Give a number between 1 and 10: " << endl;
        cin >> user_num;
    } while (user_num != correct_number);
    cout << "You got the correct number!" << endl;
    return 0;
}
```
For Loops

• No condition to check
• Executes for a set number of times

Examples of for loops in the real world:

- For two times in a day ➞ brush teeth
- For 14 days ➞ apply a white strip
- For 5 days ➞ go to class
- For 10 reps ➞ do push ups
For Loop Example

```cpp
6  cout << "Yo listen up, here's the story" << endl;
7  cout << "About a little guy that lives in a blue world" << endl;
8  cout << "And all day and all night and everything he sees is just 
blue" << endl;
9  cout << "Like him, inside and outside" << endl;
10 cout << "Blue his house with a blue little window" << endl;
11 cout << "And a blue Corvette" << endl;
12 cout << "And everything is blue for him" << endl;
13 cout << "And himself and everybody around" << endl;
14 cout << "'Cause he ain't got nobody to listen" << endl;
15 
16  for(int i = 0; i < 2; i++) {
17    cout << "I'm blue ";
18    for(int j = 0; j < 6; j++) {
19      if (j == 3) {
19        cout << endl;
21      }
22      cout << "Da ba dee da ba daa, ";
23    }
24    cout << endl;
25  }
26 
27  return 0;
28 }
```
```c
int main () {
    srand(time(NULL));
    int user_num = 0;
    int correct_number = rand() % 10 + 1;
    //cout << "Give a number between 1 and 10: " << endl;
    //cin >> user_num;
    /*do{
        cout << "Give a number between 1 and 10: " << endl;
        cin >> user_num;
    } while (user_num != correct_number);*/

    for(int i = 0; i < 10; i++) {
        cout << "Give a number between 1 and 10: " << endl;
        cin >> user_num;
        if (user_num == correct_number) {
            break;
        }
    }

    cout << "You got the correct number!" << endl;

    return 0;
}
```