

Task 3: Control Structures

This week we learned about `for`, `do..while`, and `switch`. But all of these concepts are just syntactic sugar for the basics that we learned about last time: `if` and `while`.

Try to reproduce the output of the following three blocks of code exactly using only the control structures `if`, `else` and `while`.

You may introduce as many variables and statements as you want, but try to aim for the shortest possible solution.

If you already feel very comfortable using the new control structures and just want to get straight into it, you can of course skip this warm up task :).

Task 3.1: For

```
1 for(int i = 0; i < 10; i++){  
2     puts("Hello");  
3 }
```

It would be kind of dumb, but could we do it without any control structures at all?

Task 3.2: Do While

```
1  int x = 0;
2  do{
3      i++;
4      printf("%i\n", i);
5      i++;
6  }while(x < 9);
```

Task 3.3: Switch

```
1  for(int i = 0; i < 100; i++){  
2      switch(i % 3 + 2 * (i % 5)){  
3          case 0: printf("%i\n", i); break;  
4          case 1: puts("Fizz!"); break;  
5          case 2: puts("Buzz!"); break;  
6          case 3: puts("FizzBuzz!"); break;  
7      }  
8  }
```

This might look familiar, eh? Try to preserve the logic shown here as closely as possible during your conversion. Remember: You may introduce additional variables.