

# C++ Control Structures

## In-Class Problem

1. Add a comment to identify each control structure in this C++ code.
2. Add a comment on every line explaining what the C++ code is doing.
3. What is the output of this code?

```
#include <iostream> // includes input/output library
int main() {
    int age = 20; // declares integer variable 'age' and sets it to 20
    if (age >= 18) // if age is greater than or equal to 18
        std::cout << "Adult" << std::endl; // print "Adult"
    else // if age is less than 18
        std::cout << "Minor" << std::endl; // print "Minor"

    int day = 3; // initialize integer 'day' with value 3
    switch (day) // switch case evaluating day
    {
        case 1: // if day is Monday
            std::cout << "Monday" << std::endl; // print "Monday"
            break; // Exit switch
        case 2: // if day is Tuesday
            std::cout << "Tuesday" << std::endl; // print "Tuesday"
            break; // Exit switch
        case 3: // if day is Wednesday
            std::cout << "Wednesday" << std::endl; // print "Wednesday"
            break; // Exit switch
        default: // if no cases match
            std::cout << "Other day" << std::endl; // print "other day"
    }
    for (int i = 0; i < 5; ++i) // loop variable i from 0 to 4 (5 times)
    {
        std::cout << "Iteration: " << i << std::endl; // print iteration number
    }
    int counter = 0; // initialize counter to 0
    while (counter < 3) // Repeat while counter is less than 3
    {
        std::cout << "Counter: " << counter << std::endl; // prints counter value
        counter++; // increments counter by 1
    }
    int num = 0; // initialize num to 0
    counter = 2; // initialize counter to 2
    do
    {
        std::cout << "Number: " << num << std::endl; // print num value
        num++; // increment num by 1
    } while (counter < 2); // check condition after executing once
    return 0;
}
```

3..

Adult

Wednesday

Iteration: 0

Iteration: 1

Iteration: 2

Iteration: 3

Iteration: 4

Counter: 0

Counter: 1

Counter: 2

Number: 0