

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 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: //Monday
            std::cout << "Monday" << std::endl; //print Monday
            break; //Exit switch
        case 2: //Tuesday
            std::cout << "Tuesday" << std::endl; //print Tuesday
            break; //Exit switch
        case 3: //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 loop control structure
    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; //print 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