

## C++ code for washing machine Simulation

```
#include <iostream>

#include <string>

#include <vector>

using namespace std;

class WashingMachine {
private:
    string mode;    // Wash cycle mode
    int waterLevel; // Water level in liters
    int timer;      // Time in minutes

public:
    WashingMachine() : mode("Normal"), waterLevel(20), timer(30) {}

    void setMode(const string& newMode) {
        mode = newMode;
    }

    void setWaterLevel(int level) {
        if (level >= 10 && level <= 50) {
            waterLevel = level;
        } else {
            cout << "Invalid water level. Please set between 10 and 50 liters." << endl;
        }
    }
}
```

```
void setTimer(int time) {  
    if (time > 0) {  
        timer = time;  
    } else {  
        cout << "Invalid time. Please enter a positive value." << endl;  
    }  
}
```

```
void wash() {  
    cout << "Starting wash cycle: " << mode << " with " << waterLevel << " liters of water."  
    << endl;  
    displayProgress(timer); // Timer is already in minutes  
    cout << "Washing completed!" << endl;  
}
```

```
void rinse() {  
    cout << "Starting rinse cycle with " << waterLevel << " liters of water." << endl;  
    displayProgress(timer / 2); // Rinse time is half of wash time  
    cout << "Rinsing completed!" << endl;  
}
```

```
void spin() {  
    cout << "Starting spin cycle." << endl;  
    displayProgress(timer / 3); // Spin time is a third of wash time  
    cout << "Spinning completed!" << endl;  
}
```

```
void displayProgress(int minutes) {  
    for (int i = 0; i < minutes; i++) {  
        cout << "Step " << (i + 1) << " of " << minutes << " minutes..." << endl;  
    }  
}
```

```
void start() {  
    wash();  
    rinse();  
    spin();  
}  
};
```

```
int main() {  
    WashingMachine wm;  
  
    // User interaction  
    string mode;  
    int waterLevel, timer;  
  
    cout << "Welcome to the Washing Machine Simulation!" << endl;  
    cout << "Select wash mode (Normal/Delicate/Heavy): ";  
    cin >> mode;  
    wm.setMode(mode);  
  
    cout << "Set water level (10-50 liters): ";
```

```
cin >> waterLevel;

wm.setWaterLevel(waterLevel);

cout << "Set timer (minutes): ";

cin >> timer;

wm.setTimer(timer);

// Start the washing process

wm.start();

cout << "Washing cycle completed successfully!" << endl;

return 0;

}
```

## Output:

Welcome to the Washing Machine Simulation!

Select wash mode (Normal/Delicate/Heavy): heavy

Set water level (10-50 liters): 10

Set timer (minutes): 10

Starting wash cycle: heavy with 10 liters of water.

Step 1 of 10 minutes...

Step 2 of 10 minutes...

Step 3 of 10 minutes...

Step 4 of 10 minutes...

Step 5 of 10 minutes...

Step 6 of 10 minutes...

Step 7 of 10 minutes...

Step 8 of 10 minutes...

Step 9 of 10 minutes...

Step 10 of 10 minutes...

Washing completed!

Starting rinse cycle with 10 liters of water.

Step 1 of 5 minutes...

Step 2 of 5 minutes...

Step 3 of 5 minutes...

Step 4 of 5 minutes...

Step 5 of 5 minutes...

Rinsing completed!

Starting spin cycle.

Step 1 of 3 minutes...

Step 2 of 3 minutes...

Step 3 of 3 minutes...

Spinning completed!

Washing cycle completed successfully!

=== Code Execution Successful ===

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