Activity No. 2.2	
Control Structures (part 1)	
Course Code: CPE007	**Program:** Computer Engineering
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6. Output

main.cpp

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

int main() {
    int total = 0;
    int gradecounter = 1;
    int grade;
    double classaverage;

    while (gradecounter <= 10) {
        cout << "Enter grade " << gradecounter << ": ";
        cin >> grade;

        if (grade < 0 || grade > 100) {
            cout << "Invalid grade! Please enter a value between 0 and 100." << endl;
            continue;
        }

        total += grade;
        gradecounter++;
    }

    classaverage = total / 10.0;

    cout << "\nClass average: " << classaverage << endl;

    return 0;
}
```

Output

```
Enter grade 1: 95
Enter grade 2: 96
Enter grade 3: 98
Enter grade 4: 92
Enter grade 5: 94
Enter grade 6: 99
Enter grade 7: 94
Enter grade 8: 93
Enter grade 9: 91
Enter grade 10: 100

Class average: 95.2


=== Code Execution Successful ===
```

7. Supplementary Activity

1.

main.cpp

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

int main() {
    int number;
    cout << "Enter a number: ";
    cin >> number;
    if (number % 2 == 0) {
        cout << number << " is an even number." << endl;
    }
    else {
        cout << number << " is an odd number." << endl;
    }
    return 0;
}
```

Output

```
Enter a number: 2
2 is an even number.


=== Code Execution Successful ===
```

2.

main.cpp

Share Run

Output

```cpp
#include <iostream>
#include <string>
#include <iomanip>

int main() {
    const double minFare = 9.0;
    std::string studentID;
    int age;
    double discount = 0.0;
    std::cout << "Do you have a student ID? (yes/no): ";
    std::getline(std::cin, studentID);
    for (char &c : studentID) {
        c = tolower(c);
    }
    std::cout << "Enter your age: ";
    std::cin >> age;
    if (age >= 60) {
        discount = 0.10;
    } else if (studentID == "yes") {
        discount = 0.08;
    }
    double discountedFare = minFare * (1.0 - discount);
    std::cout << std::fixed << std::setprecision(2);
    std::cout << "Your fare after discount is: " << discountedFare << " pesos" << std
        ::endl;
    return 0;
}
```

```
Do you have a student ID? (yes/no): yes
Enter your age: 7
Your fare after discount is: 8.28 pesos


=== Code Execution Successful ===
```

main.cpp

Share Run

Output

```cpp
#include <iostream>
#include <string>
#include <iomanip>

int main() {
    const double minFare = 9.0;
    std::string studentID;
    int age;
    double discount = 0.0;
    std::cout << "Do you have a student ID? (yes/no): ";
    std::getline(std::cin, studentID);
    for (char &c : studentID) {
        c = tolower(c);
    }
    std::cout << "Enter your age: ";
    std::cin >> age;
    if (age >= 60) {
        discount = 0.10;
    } else if (studentID == "yes") {
        discount = 0.08;
    }
    double discountedFare = minFare * (1.0 - discount);
    std::cout << std::fixed << std::setprecision(2);
    std::cout << "Your fare after discount is: " << discountedFare << " pesos" << std
        ::endl;
    return 0;
}
```

```
Do you have a student ID? (yes/no): no
Enter your age: 65
Your fare after discount is: 8.10 pesos


=== Code Execution Successful ===
```

3.

main.cpp

Share Run

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

int main() {
    double total = 0;
    int counter = 0;
    double grade;
    double average;

    cout << "Enter grade: ";
    cin >> grade;

    while (grade != -1) {
        total += grade;
        counter++;
        cout << "Enter grade: ";
        cin >> grade;
    }

    if (counter != 0) {
        average = total / counter;
        cout << "Average grade: " << average << endl;
    }
    else {
        cout << "No grades were entered" << endl;
    }

    return 0;
}
```

Output

```
Enter grade: -1
No grades were entered


=== Code Execution Successful ===
```

8. Conclusion

What I learned in this activity are how if, else, and while operations work. If you want to code something that needs to have a condition, it is imperative that you know how to code it using if, else, and while operations. You can input as many conditions as you want to as long as you know the entire process of this. I'm looking forward to learn more beyond this.

9. Assessment Rubric