Activity No. 2.2	
Control Structures (pt. 1)	
Course Code: CPE007	**Program:** Computer Engineering
Course Title: Programming Logic and Design	**Date Performed: August 11, 2025**
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6. Output

Exercise 1:

```cpp
#include <iostream>

int main() {
    int tgrade = 0;
    int gradecount = 1;
    int n = 0;
    int classavg = 0;

        while (gradecount <= 10){
            std::cout << "Input Grade: " << std::endl;
            std::cin >> n;
            tgrade = n + tgrade;
            gradecount = gradecount + 1;}

    classavg = tgrade / 10;

        std::cout << classavg;
    return 0;
}
```

```
Input Grade:
89
Input Grade:
88
Input Grade:
87
Input Grade:
88
Input Grade:
75
Input Grade:
87
Input Grade:
90
Input Grade:
92
Input Grade:
94
Input Grade:
88
87
```

7. Supplementary Activity

1. A Program that asks the user a number and checks if it is even or odd.

```cpp
#include <iostream>

int main() {
    int n = 0;

    std::cout << "Input number: " << std::endl;
    std::cin >> n;

    if (n % 2 == 0)
        std::cout << "Your number " << n << " is even" << std
            ::endl;
        else
        std::cout << "Your number " << n << " is odd" << std
            ::endl;

    return 0;
}
```

```
Input number:
3
Your number 3 is odd


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

2.

```
# include <iostream>

int main() {

   int n = 0;
   int minfare = 9;
   char s = 0;
   float finalfare = 0;
   float seniordiscount = 0.10;
   float studentdiscount = 0.08;
   float discount = 0;
   float change = 0;

   std::cout << "Input fare: " << std::endl;
   std::cin >> n;
   std::cout << "Are you a student or senior? (a for student, b for senior, c if none)" << std::endl;
   std::cin >> s;

   if (n<9){
      std::cout << "Not enough cash!";
      }
      else
         switch(s) {
            case 'a':
             discount = minfare * studentdiscount;
             finalfare = minfare - discount;
             change = n - finalfare;
             std::cout << "Your fare is " << finalfare << std::endl;
             std::cout << "Your change is " << change << std::endl;
             break;

            case 'b':
             discount = minfare * seniordiscount;
             finalfare = minfare - discount;
             change = n - finalfare;
             std::cout << "Your fare is " << finalfare << std::endl;
             std::cout << "Your change is " << change << std::endl;
             break;

            case 'c':
             finalfare = minfare;
             change = n - finalfare;
             std::cout << "Your fare is " << finalfare << std::endl;
             std::cout << "Your change is " << change << std::endl;
             break;
         }
  return 0;
}
```

Output for Students

```
Output                                                    Clear
Input fare:
20
Are you a student or senior? (a for student, b for senior, c if none)
a
Your fare is 8.28
Your change is 11.72


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

Output for Seniors

```
Output                                                    Clear
Input fare:
20
Are you a student or senior? (a for student, b for senior, c if none)
b
Your fare is 8.1
Your change is 11.9


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

Output for none

```
Output                                                    Clear
Input fare:
20
Are you a student or senior? (a for student, b for senior, c if none)
c
Your fare is 9
Your change is 11


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

3.

```cpp
# include <iostream>

int main() {
    int tgrade = 0;
    int counter = 0;
    int avg = 0;
    int n = 0;

        std::cout << "Insert Grade: " << std::endl;
        std::cin >> n;
        while (n != -1){
            tgrade = n + tgrade;
            counter++;
            std::cout << "Insert Grade: " << std::endl;
            std::cin >> n;
        }
        if (counter != 0) {
            avg = tgrade / counter;
            std::cout << "Class Average: " << avg;
        }
        else
            std::cout << "No grades were entered";

   return 0;
}

```

```
Insert Grade:
20
Insert Grade:
20
Insert Grade:
10
Insert Grade:
20
Insert Grade:
15
Insert Grade:
20
Insert Grade:
-1
Class Average: 17

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

Output if no grades

main.cpp | Share | Run | Output

```cpp
# include <iostream>

int main() {
    int tgrade = 0;
    int counter = 0;
    int avg = 0;
    int n = 0;

        std::cout << "Insert Grade: " << std::endl;
        std::cin >> n;
        while (n != -1){
            tgrade = n + tgrade;
            counter++;
            std::cout << "Insert Grade: " << std::endl;
            std::cin >> n;
        }
        if (counter != 0) {
            avg = tgrade / counter;
            std::cout << "Class Average: " << avg;
        }
        else
            std::cout << "No grades were entered";

   return 0;
}

```

```
Insert Grade:
-1
No grades were entered

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

8. Conclusion
I learnt how to use the If/Else and While statements, how to make a counter controlled repetition program, a program that calculates the discounted price of a fare for seniors and students using switch conditional statements, and a sentinel controlled repetition program.
9. Assessment Rubric