Activity 6.1	
Functions	
Course Code: CPE 007	**Program:** Computer Engineering
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6. Output

Code:

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

int calculator();
int fcconvert();
int pdconvert();

// Main Function
int main() {
   int choice;
   while (true) {
       cout << "MAIN MENU\n";
       cout << "1. Calculator\n";
       cout << "2. Fahrenheit-Celsius Converter\n";
       cout << "3. Peso-Dollar Converter\n";
       cout << "4. Exit\n";
       cout << "Enter your choice (1-4): ";
       cin >> choice;

       switch (choice) {
           case 1:
               calculator();
               break;
           case 2:
               fcconvert();
               break;
           case 3:
               pdconvert();
               break;
           case 4:
               cout << "Exiting program...\n";
               return 0;
           default:
               cout << "Invalid choice. Please select 1-4 only.\n";
       }
   }
}

// Functions
int calculator (){
   char oper;
   double a, b;

   // Input operator
   while (true) {
       cout << "Enter an operator (+, -, *, /): ";
       cin >> oper;

       if (oper == '+' || oper == '-' || oper == '*' || oper == '/')
```

```
            break;
        else
            cout << "Error! Operator is not correct. Please try again.\n";
    }

    // Input two numbers
    cout << "Enter two numbers: ";
    cin >> a >> b;

    // switch case for processing operators
    switch (oper) {
        case '+':
            cout<<a<<" + "<<b<<" = "<<a+b<<endl;
            break;
        case '-':
            cout<<a<<" - "<<b<<" = "<<a-b<<endl;
            break;
        case '*':
            cout<<a<<" * "<<b<<" = "<<a*b<<endl;
            break;
        case '/':
            cout<<a<<" / "<<b<<" = "<<a/b<<endl;
            break;
    }
    return 0;
}

int fcconvert() {
    int num;
    double fahrenheit, celsius;
    while (true) {
        cout << "TEMPERATURE CONVERTER\n";
        cout << "1. Fahrenheit-Celsius\n";
        cout << "2. Celsius-Fahrenheit\n";
        cout << "Enter your choice (1-2): ";
        cin >> num;

        if (num == 1 || num == 2)
            break;
        else
            cout << "Invalid Choice. Please select 1-2 only.\n";
    }

    // switch case for converters
    switch (num) {
        case 1:
            cout<<"Enter fahrenheit: ";
            cin>>fahrenheit;
            cout<<"Celsius: "<<(fahrenheit-32)/1.8<<endl;
            break;
        case 2:
            cout<<"Enter celsius: ";
            cin>>celsius;
            cout<<"Fahrenheit: "<<(celsius*1.8)+32<<endl;
            break;
    }
    return 0;
}

int pdconvert() {
    int val;
    double peso, dollar;
    while (true) {
```

```
        cout << "PESO AND DOLLAR CONVERTER\n";
        cout << "1. DOLLAR-PESO\n";
        cout << "2. PESO-DOLLAR\n";
        cout << "Enter your choice (1-2): ";
        cin >> val;

        if (val == 1 || val == 2)
            break;
        else
            cout << "Invalid Choice. Please select 1-2 only.\n";
    }

    // switch case for converters
    switch (val) {
        case 1:
            cout<<"Enter dollar: ";
            cin>>dollar;
            cout<<"Peso: PHP"<<dollar*58.13<<endl;
            break;
        case 2:
            cout<<"Enter peso: ";
            cin>>peso;
            cout<<"Dollar: USD"<<peso*.017<<endl;
            break;
    }
    return 0;
}
```

Output:

"C:\Users\Jaime Luis\CLionProjects\untitled2\cmake-build-debug\untitled2.exe"
MAIN MENU
1. Calculator
2. Fahrenheit-Celsius Converter
3. Peso-Dollar Converter
4. Exit
Enter your choice (1-4):1

Enter an operator (+, -, *, /):+

Enter two numbers:5

6

5 + 6 = 11
MAIN MENU
1. Calculator
2. Fahrenheit-Celsius Converter
3. Peso-Dollar Converter
4. Exit
Enter your choice (1-4):2

TEMPERATURE CONVERTER
1. Fahrenheit-Celsius
2. Celsius-Fahrenheit
Enter your choice (1-2):2

```
Enter celsius:38

Fahrenheit: 100.4
MAIN MENU
1. Calculator
2. Fahrenheit-Celsius Converter
3. Peso-Dollar Converter
4. Exit
Enter your choice (1-4):3

PESO AND DOLLAR CONVERTER
1. DOLLAR-PESO
2. PESO-DOLLAR
Enter your choice (1-2):1

Enter dollar:100

Peso: PHP5813
MAIN MENU
1. Calculator
2. Fahrenheit-Celsius Converter
3. Peso-Dollar Converter
4. Exit
Enter your choice (1-4):4

Exiting program...

Process finished with exit code 0
```

7. Supplementary Activity

Analysis:

Calculator Function:

What I coded in this function is an operation for a calculator product. In the first part, I declared variables that will be used later on for operations. Then, I initialized a while loop for users to input their desired operators and allow them to re-enter a variable that will not be operators through displaying an error message. After inputting a correct operator, I initialized an inputting mechanism that will allow users to input their two numbers as desired. After this, I initialized a switch-case statement that will process the two numbers through inputted mathematical operators in order to display the results, therefore resembling a calculator. And after printing out the results, I input a return 0 so that the program will return to the main function wherein users will be able to select a function again to perform.

Fahrenheit-Calculator converter Function:

What I coded in this function is an operation that will allow two different scales of temperatures to be converted. In the first part, I declared variables that will be used later on for operations. There is a “double” data type that I used in declaring variables because in this function, there will be decimals later on. Then, like in the calculator function, I initialized a while loop for users to input the number that will let them convert either fahrenheit or celsius and allow them to re-enter a variable when their inputted variable isn’t 1 or 2 through displaying an error message. After inputting the correct number, I initialized a switch-case statement that will allow users to input fahrenheit or celsius (depending on an inputted number), process them out for conversion based on the respective solutions, and print out a converted value. And after printing out the converted values, I input a return 0 so that the program will return to the main function wherein users will be able to select a function again to perform.

Peso-Dollar converter Function:
What I coded in this function is an operation that will allow either peso or dollar to be converted. In the first part, I declared variables that will be used later on for operations. Like in the fahrenheit-calculator converter function, there would be a “double” data type that I used in declaring variables because in this function, decimals will be used later on. Then, like in the previous two functions, I initialized a while loop for users to input the number that will let them convert either peso or dollar and allow them to re-enter a variable when their inputted variable isn’t 1 or 2 through displaying an error message. After inputting the correct number, I initialized a switch-case statement that will allow users to input peso or dollar (depending on an inputted number), process them out for conversion based on their respective values, and print out a converted currency. And after printing out the converted currency, I input a return 0 so that the program will return to the main function wherein users will be able to select a function again to perform.

8. Conclusion

In this activity, we were tasked to create three different functions and allow users to perform one function so that we can learn more how calling out the functions works for simplification of code. In the first part of the code, I declared a variable that will be used for the variable of functions. And then, I initialized a main function that will allow users to choose what function they would want to perform, exit the program, or re-enter numbers. I used a while loop statement for the main menu that will allow users to choose a function. Through this, it would ensure that the users can only input selected correct variables and allow them to try again whenever they are not correct. And after passing the while loop, I inputted a switch-case statement that will call out different functions based on the number they inputted. After the main function, I input a different function mechanism in order to perform the desired function tasks.