Lab 1 *(Due: May 18)*
C++ Programming - COSC 2321

Department of Computer Science and Electrical Engineering

Summer Session I, 2022

Exercises

*Create a **New Project** for every exercise. Take a screenshot of the source code along with its output and place the **source code** and the **screenshot** in a **zipped folder** named **LastNameFirstName_Lab1***

Exercise 1

Write the following *Hello world* program without using **using namespace std;**

```
#include "stdafx.h"
#include <iostream>

using namespace std;

int main()
{
    printf("Hello world\n");
    cout << "Hello world!" << endl;
    return 0;
}
```

Exercise 2

Write the following program and run it

```
// This progam calculates the user's pay.
#include <iostream>
using namespace std;

int main()
{
   double hours, rate, pay;

   // Get the number of hours worked.
   cout << "How many hours did you work? ";
   cin >> hours;

   // Get the hourly pay rate.
   cout << "How much do you get paid per hour? ";
   cin >> rate;

   // Calculate the pay.
   pay = hours * rate;

   // Display the pay.
   cout << "You have earned $" << pay << endl;
   return 0;
}
```

Exercise 3

Write the following program and print the values *500* and *200*

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

// Variable created inside namespace
namespace first
{
    int val = 500;
}

// Global variable
int val = 100;

int main()
{
    // Local variable
    int val = 200;



    return 0;
}
```

Exercise 4

Write a *for loop* that finds the power of 2 (do not use built-in function **pow**) of ten consecutive numbers, e.g., 1 to 10 while it skips the calculation of the middle one, e.g., 5. Write a *while loop* that does the same. Write a *do while loop* that does the same but instead of skipping the middle number it exits from the loop when it reaches the middle of the loop

Note: Use **continue** for the first two loops and **break** for the last one

Exercise 5

Ask the user to enter a number. Use the **ternary operator** to find whether the numbered entered is **Odd** or **Even**

Exercise 6

Write a function that converts *Celsius to Fahrenheit* and another one that converts *Fahrenheit to Celsius* depending on the user input, e.g., if the user input is C the program will convert **F -> C**; if F then **C -> F**, otherwise print **Invalid Input**. Make use of a **switch** statement. Pass **temperature** from **main** to the corresponding function and **return** the result to **main**. Print converted result from within **main**

Note: Submit through **Canvas**