Assignment 1 (10%)	OOP 2200 - 01
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Q1. Define the following terms:

- Algorithm
  - Algorithm is typically a set of mathematically rules used by a group of functions of a program to accomplish a task or a specific computation. It I am finite sequence of well-defined instructions.
- Procedure
  - Generally, it refers to routine carried out a task. Procedures can be used multiple times within a program, very similar to a function.
- Object
  - An object refers to an instance of a class. An object is made up of attributes and methods which allow the class to behave in a certain way within a program.
- Compiler
  - It refers to a special language processor which reads the source program which is written in a programming language and translates into a machine language readable by a computer.
- Object program
  - Object programs are programs in machine language form. A computer program which is translated from source code to machine language by the complier.

Q2. Determine data types suitable for the following data:

- The average of four grades
  - Float, because averaging of grades requires decimals for a more accurate output
- The number of days in a month
  - Int, because the number of days in a month will never be a decimal number and must be a whole number.
- The length of the Golden Gate Bridge
  - Shot, because it will be a large number
- The numbers in a state lottery
  - Signed, because that data will require more than 32 bits.

Q3. Modify the following program to determine how many bytes your compiler assigns to the float, double, and long double data types.

```
#include<iostream>
using namespace std;
int main()
{
     cout << "\nData Type Bytes";
     cout <<"\n---------  -----";
     cout <<"\nint         "<<sizeof(int);
    cout <<"\nchar       "<<sizeof(char);
    cout <<"\nbool       "<<sizeof(bool);
    cout <<'\n';

   return 0;
}
```

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

int main()
{
    printf("size of int : %d\n",sizeof(int));
    printf("size of char : %d\n",sizeof(char));
    printf("size of bool  : %d\n",sizeof(bool));
```

```
    return 0;
}
```

Q4. Determine and correct the errors in the following programs.

a.

```
#include<iostream>
using namespace std;
int main()
{
      width = 15
      Area = length*width;
      cout << " The area is " << area
  }
```

```
#include<iostream>
using namespace std;
int main()
{
    int width, area, length;
    cout << "Enter the length: " <<endl;
    cin >> length;
    width = 15;
    area = length*width;
    cout <<" The area is: " << area;

    return 0;
}
```

b.

```
#include<iostream>
using namespace std;
int main()
{
     int length, width, area;
     Area = length * width;
     length = 20;
     width = 15;
     cout << " The area is " << area;

    return 0;
}
```

```
#include<iostream>
using namespace std;
int main()
{
    int length, width, area;
    length = 20;
    width = 15;
    area = length * width;
    cout << "The area is: " << area;

     return 0;
}
```

Q5. Determine the errors in the following statements:

- cout<<“\n<<“15)
  - cout<<15<<"\n";
- cout<<“setw(4)”<<33;
  - cout<<33<<setw(4);
- cout<<“setprecision(5)”<<526.768;
  - cout<<setprecision(5)<<526.768;
- “HelloWorld!”>>cout;
  - cout<<"Hello World";
- cout<<47<<setw(6);
  - cout<<setw(6)<<47
- cout<<set(10)<<526.768<<setprecision(2)
  - cout<<526.768<<setprecision(2)<<setw(10);

Submission Details

1. Answer each of the questions above and paste a screenshot after running programs if needed.
2. Make sure your code and comments are readable.
3. The name of this document should be “**YourName_Assignment1.docx**”.
4. Copied work will be graded to zero and reported as an academic integrity offence.