Lab 02

C++ FOR PROGRAMMERS

Parth Jasmin Madhani | 101901858 | 12/02/2019

In this lab..

- Revised C++ concepts by finding resources for c++ online.
- Decided to use visual studio as IDE.
- Made a demo program based on the concepts provided in task.

Resources for c++

1. Quick Reference sheet for c++

   - https://web.pa.msu.edu/people/duxbury/courses/phy480/Cpp_refcard.pdf
     The above page covers briefly all the concepts of c++ and really helps one revise c++ .

2. Keyboard Shortcut for visual studio 2017

   - http://visualstudioshortcuts.com/2017/
     It provides all the keyboard shortcuts for visual studio.

3. Online tool to test code

   - https://www.onlinegdb.com/online_c++_compiler

Demo Program

```cpp
#include <iostream>
#include <cstdlib>
#include <ctime>
#include <string>

using namespace std;

class ASquare {
public:
        double Area;
        void area();
        void setlength(double wid);
        double getlength(void);

private:
        double length;
};
```

```cpp
void ASquare::area() {
        Area = length * length;
        cout << "The area of square is" << Area ;
}

double ASquare::getlength(void) {
        return length;
}

void ASquare::setlength(double len) {
        length = len;
}

void populateArray()
{
        srand(time(nullptr));
        const int ARRAY_SIZE = 5;
        int ar[ARRAY_SIZE] = { 0 };
        for (int i = 0; i < 5; ++i) ar[i] = rand() % 50 + 1;
        cout << "\nArray Values are : ";
        for (int v : ar) cout << v << ' ' ;
}

void removeDupWord(string str)
{
        string word = "";
        for (auto x : str)
        {
                if (x == ' ')
                {
                        cout << word << "\n";
                        word = "";
                }
                else
                {
                        word = word + x;
                }
        }
        cout << word << endl;
}

void printmessage(int a,int b)
{
        cout << a <<"\n" << b <<"\n";
}

int alteredmessage(int a)
{
        return a * 2;
}
void oddnumbers()
{
        cout << "Odd numbers list: ";
        for (int i = 0; i < 20; i++)
        {
                if (i % 2 != 0)
```

```cpp
            {
                    cout <<i<< " ";
            }
        }
}
int main()
{
        int value;
        string str = "this has spaces in it";
        int *mypointer;
        mypointer = &value;
        *mypointer = 10;
        cout << "value is " << value << '\n';
        printmessage(2,3);
        cout << alteredmessage(2) <<"\n";
        oddnumbers();
        populateArray();
        removeDupWord(str);
        ASquare square;


        square.setlength(10.0);
        cout << "length of square : " << square.getlength() << endl;
        square.area();
        return 0;

}
```