

National University of Computer and Emerging Sciences



Lab Manual 09 Object Oriented Programming

| | |
|--------------------|-------------------------------------|
| Course Instructor | Mr. Bismillah Jan |
| Lab Instructor (s) | Mr. Saif Ali Mr. Dilawar Shabbir |
| Section | BCS-2E |
| Semester | Spring 2021 |

Department of Computer Science
FAST-NU, Lahore, Pakistan

Objectives

After performing this lab, students shall be able to perform:
Operator overloading.

- subscript operator []
- overloading -, + operators as non-member functions

TASK 1:

Design a class “Marks” of given driver/ main function and its required member functions and overload subscript operator “[]”.

Data member subjects → integer fixed size array

```
int main()
{
    Marks saif(77,88,99);
    //0 represent marks of Data Structure
    //1 represent marks of OOP
    //2 represent marks of Programming Fundamental
    cout<<"Saif Your Obtained Marks in Programming Fundamental is: "<<saif[2]<<endl<<endl;
    cout<<"Saif Your Obtained Marks in OOP is: "<<saif[1]<<endl<<endl;
    cout<<"Saif Your Obtained Marks in Data Structure is: "<<saif[0]<<endl<<endl;

    return 0;
}
```

TASK 2:

Design a class “myArray of given driver/ main function and implement given member functions and overload subscript operator “[]”.

```
class MyArray {
private:
    int* arr;
    int size;

public:
    MyArray(identify parametr);

    Identify-return-type operator[](identify parameter);

    Identify-return-type print(identify parameter);
};
```

```

int main()
{
    int f_array[] = { 2, 4, 6, 8};
    MyArray arr(f_array, 4);
    arr[2] = 6;
    arr.print();
    arr[3] = 12;
    arr[4] = 6;
    //exception or not?
    return 0;
}

```

TASK 3:

Design a class “Cents” of given driver/ main function and its required member functions and overload subscript operator “+ and -”.

Data member m_cents → integer type

```

int main()
{
    Cents cents1(6);
    Cents cents2 = cents1 + 2;
    cout << "I have " << cents2.getCents() << " cents.\n";
    Cents cents3 = cents1 - 3;
    cout << "I have " << cents3.getCents() << " cents.\n";
    return 0;
}

```