Independent University, Bangladesh
CSE213, Autumn 2020, Section-1, Quiz-2

Duration: 40 minutes. Total marks: 20

1) **[10 marks]**
   Consider the following **C++** code, and write the complete program (except main) for the given RUN. You are not allowed to change the given main(). Also it is not required to write the main function in your answer script.

```
class Array{
    private:        int *valPtr;        int size;
    public:    //add necessary methods
};

int main(){
    Array arr1, arr3;
    arr1.setArray("Random",10);                     [2 marks for the
method]
    arr2.setArray(3, "User input");           [2 marks for the method]
    cout<<"Array arr1:"<<arr1<<endl;              [3 marks for the
method]
    cout<<"Array arr2:"<<arr2<<endl;
    cout<<"Array arr3:"<<(arr1+arr2)<<endl;    [3 marks for the method]
    return 0;
}
```

   RUN:

   How many ints? 4
   Memory is allocated for 4 ints and Random values <10 are assigned to the array

   Memory is allocated for 3 ints
   Enter 3 integers for the array: 12 13 14

   Array arr1: 1 2 7 9

   Array arr2: 12 13 14

   Array arr3: 1 2 7 9 12 13 14

P.T.O

2) Consider the following **java** code and write definition of `MultiDimArray` class **[10 marks]** :

//complete the ComplexNo class so that the given RUN works.
//and write FULL definition of ComplexNo class in your answer script.

```
public class ComplexNo{                                    [6 marks]
     private int real, img;
     //add necessary public methods
}
```

//complete the main method so that the given RUN works.
//and write FULL definition of MainClass class in your answer script.

```
public class MainClass{                                    [4 marks]
     public static void main(String[] args){
          ComplexNo[] complexArr;
          //add necessary statements to satisfy the RUN
     }
}
```

RUN:
How many complex numbers? 3
Enter real and img of the complex no to be stored in complexArr[0]: 1 2
Enter real and img of the complex no to be stored in complexArr[1]: 3 -4
Enter real and img of the complex no to be stored in complexArr[3]: -7 8

The complex numbers are:
1+2i
3-4i
-7+8i

Sum of ALL complex numbers of complexArr is: -3+6i