


National University of Computer and Emerging Sciences, Lahore Campus

	Course:	Object Oriented Programming	Course Code:	CS217
	Program:	BS(Computer Science)	Semester:	Spring 2021
	Due Date:	3-May-2021	Total Marks:	10
	Section:	2E	Weight (Tentative)	3%
	Evaluation:	Assignment-03	Page(s):	2

Submission Path: [Google classroom](#)

Submission Instruction: Submit only **TWO** .cpp file, corresponding to each questions given below, to Google classroom in your related repository/folder.

Implementation Instructions: Carefully read the instructions mentioned inside each class and follow it strictly. Aberration from the instructions could cause deduction of marks.

Question 01: You are required to implement the following class

```
class Matrix
{
private:
    //Necessary member variables
    int rows;
    int cols;
    int**matrix;
public:
    //You need to implement the following functionalities. Do not change functions prototype mentioned below
    1. Default and Parameterized Constructor
    2. Copy Constructor
    3. Getters and Setters
    4. Destructor to deallocate dynamic memory
    5. Function to find matrix addition. The function prototype is given below
        Void MatrixAddition(Matrix &obj);
    6. Function to find matrix multiplication. Function prototype is given below
        Matrix MatrixMultiplication(Matrix &obj);
    7. Function to find Matrix Transpose. Function prototype is given below
        Matrix MatrixTranspose(Matrix &obj);
    8. Use this pointer where needed
}
```

Question 2: You are required to complete the implementation of the following class

```
class Voter
```

```
{
```

```
    private:
```

```
        static int total votes;
```

```
        int id;
```

```
        char* name;
```

```
        char* CNIC;
```

```
public:
```

```
//You need to implement the following functionalities
```

1. Default and Parameterized Constructor
2. Getters and Setters
3. Function to get total votes casted by a voter. Following is the prototype
static int gettotalvotes();
4. Getters and Setters
5. Destructor
6. Function to cast vote. It will take a file name, file contains list of political parties, you need to display each party with their Electoral Symbol. Then the user will cast the vote for their choice. One voter can cast any number of votes. Id is the Voter ID, who wants to cast a vote. For getting an ID, you need to take input from the user. Check if it's in the list of voters. Continue getting input until the user enters -1. Following is the prototype
bool castvote(char* filename,int id);
7. Function to print detail of each voter, how many votes a voter has casted, Name and CNIC.
8. Destructor to deallocate dynamic memory.
9. You are provided with the sheet of voters list and list of political parties (**PoliticalParties.txt and VoterList.txt**), you have to read voters list and do the required functionality. **Function to read file of voters needs to be declared as global.**

```
}
```