Introduction to Computing Laboratory
Assignment No. – 11

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1. Define a structure *student* above *main()* as follows:

```
struct student
{
 char name[50];
int roll;
float percentage;
};
```

Accept data for 10 such students in an array of structure and print them. Then print the record of the student with highest percentage of marks.

2. Define a structure to represent *complex* numbers. Write a function that will accept two complex numbers as arguments, add these two complex numbers and return the sum to the calling function.

3. Repeat the *problem 2* with the modification that the function will add two complex numbers as usual but not return anything. You are to call the function from *main()* and print the sum from *main()*.

4. Write a program to define a structure *number* as follows:

```
struct number
{
 struct complex comp;
 int real;
};
```

Here `struct complex` is same as *problem 2*. Populate such a structure with suitable values and print them.

5. Write a program in C to dynamically allocate space in memory for ***n*** number of integers where ***n*** is the input at runtime. Then find the maximum and minimum of these numbers.

6. Write a program to define complex number using structure and allocate space for ***(n+1)*** number of such complex numbers using dynamic memory allocation where ***n*** is the input during runtime. Populate the first ***n*** allocated space with ***n*** number of complex numbers and store their sum in the $(n+1)^{th}$ location.

7. Write a program to allocate space for an $m \times n$ matrix where the value of the number of rows ***m*** and number of columns ***n*** will be taken as input. Store the base addresses of each of the rows in another array of pointers where the size of the array is exactly ***m***. Use another pointer to keep track of the base address of this array of pointers. Populate the matrix with some suitable values and print them.