Lab Exercise 4

Objective:

To learn different scenarios where **Array** can be used.

Direction:

- *Programming requires lot of thinking. Unless you devote lot of time and give enough "headache" to your head*
- *Practice, dedication and hard work are must for programming.*

Exercise:

1. What would be the output of the following programs:

```
void main( )
{
        int num[26],temp;
        clrscr();
        num[0]=100;
        num[25]=200;
        temp=num[25];
        num[25]=num[0];
        num[0]=temp;
        printf("%d\t%d",num[0],num[25]);
}
```

2. Write the output of the following program:

```
void main( )
{
        int array[26],i;
        clrscr( );
        for(i=0;i<26;i++)

        {
                array[i]='A'+i;
                pritnf("\n%d %c",array[i],array[i]);
                getch( );
        }

}
```

3. Write a program that reads 10 integers from keyboard and displays entered numbers on the screen.
4. Write a program to enter 10 different numbers and print them with array variables and their addresses.
5. Write a program that asks user to enter 10 numbers, read them into an array and finds the sum, product, average and maximum of all numbers and prints them.
6. Write a program to accept 10 numbers and finds and prints the largest and smallest among those numbers.

7. Write a program that asks user to enter 10 numbers and sorts them in an ascending order and display the sorted number.
8. Write a program to read 10 numbers and reorders them in ascending order using function.
9. Write a program that accepts the marks of BIM-I semester student in C- programming. Now display the marks in descending order. Also display maximum and minimum marks.
    a. Write a program that accepts marks of BIM-II semester students in C-programming (say we have 24 students in BIM-II semester). Find and print how many students failed (pass marks is 25) and how many achieved distinction (45 above is considered distinction.)
10. Twenty-five numbers are entered through the keyboard into an array. Write a program to find out how many of them are positive, how many are negative, how many are even and how many are odd.
11. Write a program to read 10 numbers and reorders them in ascending order using function.
12. Write a program to ream a 2*3 matrix and display it on screen.
13. Write a program to read two m*n matrices and display their sum and difference.
14. Write a program to display prime numbers between 1 to 100.
15. Write a program to read marks of 10 students and print out the top five.
16. Write a program to copy contents of one array into another in reverse order.
17. Write a program which performs following tasks.
    -initialize an integer array of 10 elements in main()
    - pass the entire array to a function **modify( )**
    - in **modify ( )** multiply each element of array by 3 and print the new array.
19. Write a program to read n numbers from keyboard in to an array. Pass this array to a function which finds and displays the sum of even numbers only and the product of odd numbers only.
20. Write a program to find transpose of a matrix.
21. Write a program that asks order of two matrices and read these matrices. Find multiplication matrix if order of matrices is suitable for multiplication.
22. Write a program to read a square matrix from keyboard and find the sum of diagonal elements.
23. Write a program to find the row sum and column sum of matrix. For example an output might look like the following:

```
1       2       3 | 6
4       5       6 | 15
7       8       9 | 24
------------------------
12      15      18
```