Experiment no – 06(a)

Aim: a. Write a program to print rollno and names of 10 students using array.

Algorithm:

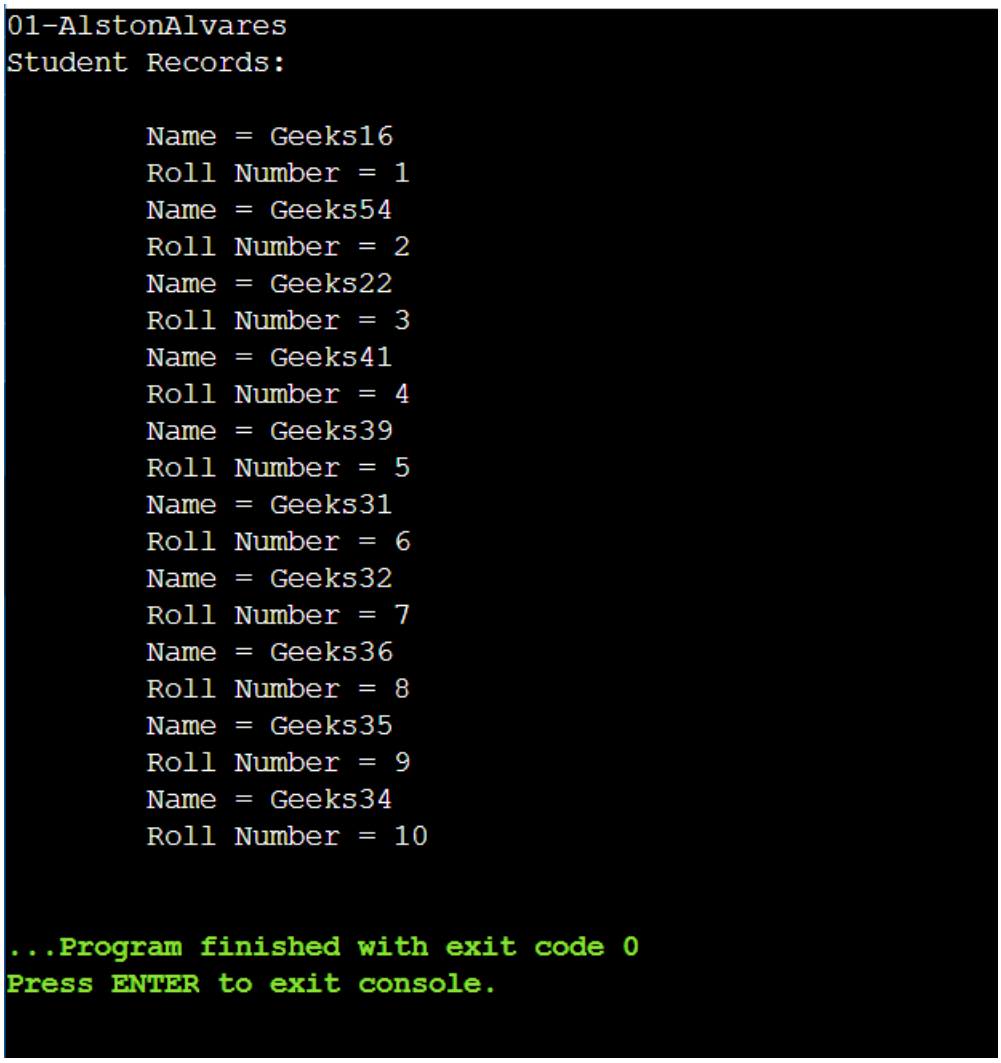
i. Start
ii. Store Student Information
iii. Create the student's structure variable
iv. Display information
v. Stop

Code:

```
// C Program to Store Information
// of Students Using Structure
#include <stdio.h>
#include <stdlib.h>
#include <string.h>
// Create the student structure
struct Student {
        char* name;
        int roll_number;
};
// Driver code
int main()
{  printf("01-AlstonAlvares\n");
        int i = 0, n = 10;
        // Create the student's structure variable
        // with n Student's records
        struct Student student[n];
        // Get the students data
        student[0].roll_number = 1;
        student[0].name = "Geeks16";
        student[1].roll_number = 2;
        student[1].name = "Geeks54";
        student[2].roll_number = 3;
```

```
        student[2].name = "Geeks22";
        student[3].roll_number = 4;
        student[3].name = "Geeks41";
        student[4].roll_number = 5;
        student[4].name = "Geeks39";
        student[5].roll_number = 6;
        student[5].name = "Geeks3”;
    student[6].roll_number = 7;
        student[6].name = "Geeks32";
        student[7].roll_number = 8;
        student[7].name = "Geeks36";
        student[8].roll_number = 9;
        student[8].name = "Geeks35";
        student[9].roll_number = 10;
        student[9].name = "Geeks34";
        // Print the Students information
        printf("Student Records:\n\n");
        for (i = 0; i < n; i++) {
                printf("\tName = %s\n", student[i].name);
                printf("\tRoll Number = %d\n", student[i].roll_number);
        }
        return 0;
}
```

Output:



Experiment no – 06(b)

Aim: Write a program to read a matrix of size m*n.

Algorithm:

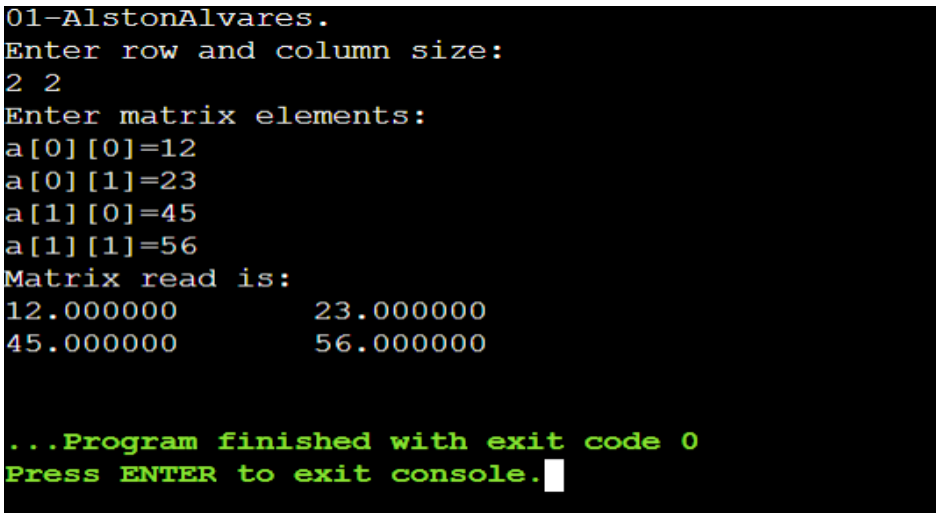
i. Start
ii. Enter row and column size
iii. Construct Matrix
iv. Display result
v. Stop

Code:

```
#include<stdio.h>

int main()

{ printf("01-AlstonAlvares.\n");

 int i,j,m,n;
```

```
float a[10][10];
printf("Enter row and column size:\n");
scanf("%d%d", &m, &n);
printf("Enter matrix elements:\n");
for(i=0;i< m;i++)
{
 for(j=0;j< n;j++)  {
  printf("a[%d][%d]=",i,j);
  scanf("%f", &a[i][j]);
 }
}
printf("Matrix read is:\n");
for(i=0;i< m;i++)
{
 for(j=0;j< n;j++)
 {
  printf("%f\t",a[i][j]);
 }
 printf("\n");
 }
}
```

Output:



Experiment no – 06(c)

Aim: **Write a program to sort the elements of array in ascending or descending order.**

Algorithm:

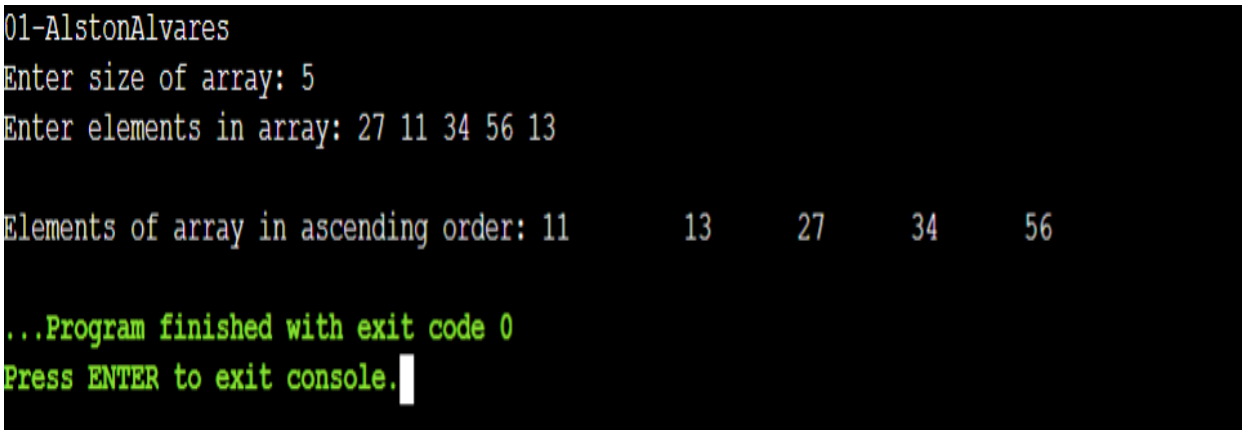
i. Start.
ii. Input size of array.
iii. Place currently selected element array to its correct place.
iv. Swap if currently selected array element to its correct place.
v. Print the sorted array.
vi. Stop.

Code:

```
/**
 * C program to sort elements of array in ascending order
 */
#include <stdio.h>
#define MAX_SIZE 100    // Maximum array size
int main()
{ printf("01-AlstonAlvares\n");
   int arr[MAX_SIZE];
   int size;
   int i, j, temp;
   /* Input size of array */
   printf("Enter size of array: ");
   scanf("%d", &size);
   /* Input elements in array */
   printf("Enter elements in array: ");
   for(i=0; i<size; i++)
   {
      scanf("%d", &arr[i]);
   }

   for(i=0; i<size; i++)
   {
```

```
        /*
         * Place currently selected element array[i]
         * to its correct place.
         */
        for(j=i+1; j<size; j++)
        {
            /*
             * Swap if currently selected array element
             * is not at its correct position.
             */
            if(arr[i] > arr[j])
            {
                temp     = arr[i];
                arr[i] = arr[j];
                arr[j] = temp;
            }
        }
    }
    /* Print the sorted array */
    printf("\nElements of array in ascending order: ");
    for(i=0; i<size; i++)
    {
        printf("%d\t", arr[i]);
    }

    return 0;
}
```

Output:


01-AlstonAlvares
Enter size of array: 5
Enter elements in array: 27 11 34 56 13
Elements of array in ascending order: 11 13 27 34 56
...Program finished with exit code 0
Press ENTER to exit console.