**ASSIGNMENT 2**

**CODE:**

```
/*  Write a program in c to store information about marks obtained in “m” subject by a “n”
number of students using Dynamic memory Allocation technique.
Display :
2.a) Total marks obtained by each students in m subject
2.b) Maximum marks obtained by each student among m subjects
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*/
#include<stdio.h>
#include <stdlib.h>
void main()
{
   int i,j,n,m,value,sum;
   int max[30];
   int **p;

   printf("Enter No of students : ");
   scanf("%d",&n);
   printf("Enter No of subjects : ");
   scanf("%d",&m);

   p = (int**)malloc(sizeof(int *)*n);

   for(i=0;i<n;i++)
      {
         *(p+i)=(int*)malloc(sizeof(int*)*m);
      }
```

```
 for(i=0;i<n;i++)
 {
   for(j=0;j<m;j++)
 {
   printf("Enter Values :");
   scanf("%d",*(p+i)+j);
  }
}
printf("\n The output \n \n");
for(i=0;i<n;i++)
{
   printf("Marks For student %d are \n",i+1);
   for(j=0;j<m;j++)
   {
      printf("subject %d = ",j+1);
      printf("%3d",*(*(p+i)+j));
      printf("\t \n");
   }
 printf("\n \n");
}

for (i=0 ; i<n ; i++)
{
   sum=0;
   for (j=0 ; j<m ; j++)
   {
      sum = sum + p[i][j];
   }

 printf ("Total Marks obtained by student %d = %d marks \n" ,i+1,sum);
}
```

```
 printf("\n");
    for (i = 0; i < n; i++)
   {
      max[i] = 0;

      for (j = 0; j < m; j++)
      {
         if (p[i][j] > max[i])
         {
            max[i] = p[i][j];
         }

      }

   }

 printf("The maximum marks of Student are as follows \n");

   for (i = 0; i < n; i++)
      {
         printf ("Maximum Marks of the Student %d = %d marks \n", i+1, max[i]);
      }

}
```

**OUTPUT :**

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```
Enter No of students : 4
Enter No of subjects : 3
Enter Values :20
Enter Values :50
Enter Values :40
Enter Values :30
Enter Values :25
Enter Values :37
Enter Values :50
Enter Values :28
Enter Values :30
Enter Values :19
Enter Values :15
Enter Values :24

 The output

Marks For student 1 are
subject 1 =  20
subject 2 =  50
subject 3 =  40


Marks For student 2 are
subject 1 =  30
subject 2 =  25
subject 3 =  37


Marks For student 3 are
subject 1 =  50
subject 2 =  28
subject 3 =  30


Marks For student 4 are
subject 1 =  19
subject 2 =  15
subject 3 =  24
```

```
 The output

Marks For student 1 are
subject 1 =  20
subject 2 =  50
subject 3 =  40


Marks For student 2 are
subject 1 =  30
subject 2 =  25
subject 3 =  37


Marks For student 3 are
subject 1 =  50
subject 2 =  28
subject 3 =  30


Marks For student 4 are
subject 1 =  19
subject 2 =  15
subject 3 =  24


Total Marks obtained by student 1 = 110 marks
Total Marks obtained by student 2 = 92 marks
Total Marks obtained by student 3 = 108 marks
Total Marks obtained by student 4 = 58 marks

The maximum marks of Student are as follows
Maximum Marks of the Student 1 = 50 marks
Maximum Marks of the Student 2 = 37 marks
Maximum Marks of the Student 3 = 50 marks
Maximum Marks of the Student 4 = 24 marks
```