

EXPERIMENT NO.7

SOLUTIONS

1. Implement C program to read 9 elements of an 2-D array (3*3) at compile time and display those on output screen in matrix format

```
#include<stdio.h>
#include<conio.h>
void main()
{
    int a[3][3],i,j;
    clrscr();
    printf("enter values for 2D array\n");
    for(i=0;i<=2;i++)
    {
        for(j=0;j<=2;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("2D array in matrix form\n");
    for(i=0;i<=2;i++)
    {
        for(j=0;j<=2;j++)
        {
            printf("%d\t",a[i][j]);
        }
        printf("\n");
    }
    getch();
}
```

1. Implement C program to read 9 elements of an 2-D array(3*3) at run time and display those on output screen in matrix format

```
#include<stdio.h>
#include<conio.h>
void main()
{
```

```

int a[3][3],t[3][3],i,j;
clrscr();
printf("Enter 9 elements\n");
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        scanf("%d",&a[i][j]);
    }
}
printf("Matrix\n");
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        printf("\t%d",a[i][j]);
    }
    printf("\n");
}
getch();
}

```

2. Implement C program to search an element in a given 2-D array.

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int a[3][3],i,j,n,c=0;
    clrscr();
    printf("Enter 9 elements\n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    printf("Matrix\n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            printf("\t%d",a[i][j]);

```

```

    }
    printf("\n");
}
printf("enter the no. which you find\n");
scanf("%d",&n);
for(i=0;i<3;i++)
{
    for(j=0;j<3;j++)
    {
        if(a[i][j]==n)
        {
            c=1;
            printf("No. is searched at index of[%d][%d]",i,j);
            break;
        }
    }
}
if(c==0)
{
    printf("No is not present");
}
getch();
}

```

3. Implement C program to find the sum of all elements in a 2-D array.

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int a[3][3],sum=0,i,j;
    clrscr();
    printf("Enter 9 elements\n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            sum=sum+a[i][j];
        }
    }
}

```

```

    }
}
printf("sum=%d",sum);
getch();
}

```

4. Implement C program to find the average of N elements of 2-D array. (Read N from user).

```

#include<stdio.h>
#include<conio.h>
void main()
{
    int a[3][3],avg,sum=0,i,j;
    clrscr();
    printf("Enter 9 elements\n");
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            scanf("%d",&a[i][j]);
        }
    }
    for(i=0;i<3;i++)
    {
        for(j=0;j<3;j++)
        {
            sum=sum+a[i][j];
            avg=sum/9;
        }
    }
    printf("Average=%d",avg);
    getch();
}

```