DATA STRUCTURE AND ANALYSIS OF ALGORITHM
KCA 253 : Session 2020-21

EXPERIMENT – 2

PROGRAM

```
#include <stdio.h>
int insert_array(); int display_array(); int transpose();
int arr1[5][5],arr2[5][5],arr3[5][5]; int i,j;
int main()
{
int choice,repeat;
   do
    {
     printf("enter your choice \n 1.insertion of matrices.\n2.display of an
matrices.\n3.TRANSPOSE  of a matrices." );
     scanf("%d",&choice);
     switch(choice)
     {
        case 1:insert_array();break;
        case 2:display_array();break;
        case 3:transpose();break;
   }
     printf("enter 1 to do more operation\n");
     scanf("%d",&repeat);
    } while(repeat==1);

 return 0;

}
int insert_array()
{ printf("Enter the elements of array1\n");

for(i=0; i<3; i++)
 {   for(j=0;j<3;j++)
  {      printf("Enter value for arr1[%d][%d]:", i, j);
         scanf("%d", &arr1[i][j]);
  }

 }  printf("Enter the elements of array2\n");
   for(i=0; i<3; i++)
 {   for(j=0;j<3;j++)
  {      printf("Enter value for arr2[%d][%d]:", i, j);
         scanf("%d", &arr2[i][j]);
  }
```

```
 }      return 0;
}
int display_array()
{

      printf("elements of array1 are:\n");
      for(i=0;i<3; i++)
      {
         for(j=0;j<3;j++)
       {
          printf("%d ", arr1[i][j]);
          printf(" ");

       }
       printf("\n");  }

      printf("elements of array2 are :\n");
      for(i=0;i<3; i++)
      {
         for(j=0;j<3;j++)
          {
             printf("%d ", arr2[i][j]);
             printf(" ");

          }
          printf("\n");
      }

}

int transpose()
  {
        printf("transpose of matrix 1\n");       for(i=0;i<3;i++)
        {
              for(j=0;j<3;j++)
               {
                     printf("%d",arr1[j][i]);                  printf(" ");
               }
          printf("\n");
        }
        printf("transpose of matrix 2\n");      for(i=0;i<3;i++)
        {
              for(j=0;j<3;j++)
               {
                     printf("%d",arr2[j][i]);                  printf(" ");
```

```
            }
          printf("\n");
        }
  }
```

OUTPUT :

```
enter your choice
 1.insertion of matrices.
2.display of an matrices.
3.TRANSPOSE  of a matrices.1
Enter the elements of array1
Enter value for arr1[0][0]:1
Enter value for arr1[0][1]:2
Enter value for arr1[0][2]:3
Enter value for arr1[1][0]:4
Enter value for arr1[1][1]:5
Enter value for arr1[1][2]:6
Enter value for arr1[2][0]:7
Enter value for arr1[2][1]:8
Enter value for arr1[2][2]:9
Enter the elements of array2
Enter value for arr2[0][0]:1
Enter value for arr2[0][1]:2
Enter value for arr2[0][2]:3
Enter value for arr2[1][0]:4
Enter value for arr2[1][1]:5
Enter value for arr2[1][2]:6
Enter value for arr2[2][0]:7
Enter value for arr2[2][1]:8
Enter value for arr2[2][2]:9
enter 1 to do more operation
1
enter your choice
 1.insertion of matrices.
2.display of an matrices.
3.TRANSPOSE  of a matrices.2
elements of array1 are:
1  2  3
4  5  6
7  8  9
elements of array2 are :
1  2  3
4  5  6
```

```
7  8  9
enter 1 to do more operation
1
enter your choice
 1.insertion of matrices.
2.display of an matrices.
3.TRANSPOSE  of a matrices.3
transpose of matrix 1
1 4 7
2 5 8
3 6 9
transpose of matrix 2
1 4 7
2 5 8
3 6 9
enter 1 to do more operation
```