WEEK 7

Implement All Pair Shortest paths problem using Floyd's algorithm.

CODE:

```
#include<stdio.h>

void main()
{
   int i,j,k,n,p[10][10],o[10][10];

   printf("Enter number of nodes \n");
   scanf("%d",&n);

   printf("Enter %dX%d adjacency matrix of \n",n,n);
   for(i=0;i<n;i++)
   {
      for(j=0;j<n;j++)
      scanf("%d",&p[i][j]);
   }

   for(i=0;i<n;i++)
   for(j=0;j<n;j++)
   o[i][j]=p[i][j];

   for(k=0;k<n;k++)
   for(i=0;i<n;i++)
   for(j=0;j<n;j++)
   if(p[i][j] > p[k][j]+p[i][k])
   p[i][j]=p[k][j]+p[i][k];

   printf("\nOriginal Adjacency Matrix \n");
   for(i=0;i<n;i++)
   {
      for(j=0;j<n;j++)
      printf("%d ",o[i][j]);
      printf("\n");
   }
```

```
    printf("\nUpdated Adjacency Matrix \n");
    for(i=0;i<n;i++)
    {
        for(j=0;j<n;j++)
        printf("%d ",p[i][j]);
        printf("\n");
    }
}
```

OUTPUT: