**Practical No: - 7**

**AIM:Write a program to implement the genetic algorithm.**

**PROGRAM:**

#include<stdio.h>

#include<conio.h>

int a[10][10],visited[10],n,cost=0;

void get()

{

int i,j;

printf("Enter No. of Cities: ");

scanf("%d",&n);

printf("\nEnter Cost Matrix: \n");

for( i=0;i<n;i++)

{

printf("\n Enter Elements of Row # : %d\n",i+1);

for( j=0;j<n;j++)

scanf("%d",&a[i][j]);

visited[i]=0;

}

printf("\n\nThe cost list is:\n\n");

for( i=0;i<n;i++)

{

printf("\n\n");

for( j=0;j<n;j++)

printf("\t%d",a[i][j]);

}

}

void mincost(int city)

{

int i,ncity;

visited[city]=1;

printf("%d –>",city+1);

ncity=least(city);

if(ncity==999)

{

ncity=0;

printf("%d",ncity+1);

cost+=a[city][ncity];

return;

}

mincost(ncity);

}

int least(int c)

{

int i,nc=999;

int min=999,kmin;

for(i=0;i<n;i++)

{

if((a[c][i]!=0)&&(visited[i]==0))

if(a[c][i]<min)

{

min=a[i][0]+a[c][i];

kmin=a[c][i];

nc=i;

}

}

if(min!=999)

cost+=kmin;

return nc;

}

void put()

{

printf("\n\nMinimum cost:");

printf("%d",cost);

}

void main()

{

clrscr();

get();

printf("\n\nThe Path is:\n\n");

mincost(0);

put();

getch();

}

**Output:**

