Assignment no 6

Input:

```
#include<iostream>
#include<string.h>

using namespace std;

class flight
{
	public:
		int am[10][10];
		char city_index[10][10];
		flight();
		int create();
		void display(int city_count);

};

flight::flight()
{
	int i,j;
	for(i=0;i<10;i++)
	{
		strcpy(city_index[i],"xx");
	}
	for(i=0;i<10;i++)
	{
		for(j=0;j<10;j++)
		{
			am[i][j]=0;
		}
	}
}

int flight::create()
{
	int city_count=0,j,si,di,wt;
	char s[10],d[10],c;
	do
	{
		cout<<"\n\tEnter Source City      : ";
		cin>>s;
		cout<<"\n\tEnter Destination City : ";
		cin>>d;
		for(j=0;j<10;j++)
```

```
                {
                        if(strcmp(city_index[j],s)==0)   //if source city is already available in
that city index then break
                        break;
                }
                if(j==10)
                {
                        strcpy(city_index[city_count],s);    //if not already present then copy
that source city at current index
                        city_count++;
                }

                for(j=0;j<10;j++)
                {
                        if(strcmp(city_index[j],d)==0)          //same for destination city
                        break;
                }

                if(j==10)
                {
                        strcpy(city_index[city_count],d);
                        city_count++;
                }

                cout<<"\n\t Enter Distance From "<<s<<" And "<<d<<": ";
                cin>>wt;

                for(j=0;j<10;j++)
                {
                        if(strcmp(city_index[j],s)==0)
                                si=j;
                        if(strcmp(city_index[j],d)==0)
                                di=j;
                }



                am[si][di]=wt;                          //insert wt to that new index si and di in array
am
                cout<<"\n\t Do you want to add more cities.....(y/n) : ";
                cin>>c;
        }while(c=='y'||c=='Y');
 return(city_count);
}
void flight::display(int city_count)
{
```

```
        int i,j;
        cout<<"\n\t Displaying Adjacency Matrix :\n\t";
        for(i=0;i<city_count;i++)                       //display horizontal matrix
                cout<<"\t"<<city_index[i];              // print value which is at city index
        cout<<"\n";

        for(i=0;i<city_count;i++)
        {
                cout<<"\t"<<city_index[i];
                for(j=0;j<city_count;j++)
                {
                        cout<<"\t"<<am[i][j]; //adding weight
                }
                cout<<"\n";
        }
}

int main()
{
        flight f;
        int n,city_count;
        char c;
        do
        {
                cout<<"\n\t*** Flight Main Menu *****";
                cout<<"\n\t1. Create \n\t2. Adjacency Matrix\n\t3. Exit";
                cout<<"\n\t.....Enter your choice : ";
                cin>>n;
                switch(n)
                {
                        case 1:
                                        city_count=f.create();
                                        break;
                        case 2:
                                        f.display(city_count);
                                        break;
                        case 3:
                                        return 0;
                }
                cout<<"\n\t Do you Want to Continue in Main Menu....(y/n) : ";
                cin>>c;
        }while(c=='y'||c=='Y');
        return 0;
}
```

Output:

```
*** Flight Main Menu *****
1. Create
2. Adjacency Matrix
3. Exit
.....Enter your choice : 1

Enter Source City      : pune

Enter Destination City : mumbai

 Enter Distance From pune And mumbai: 500

 Do you want to add more cities.....(y/n) : y

Enter Source City      : mumbai

Enter Destination City : delhi

 Enter Distance From mumbai And delhi: 700

 Do you want to add more cities.....(y/n) : y

Enter Source City      : pune

Enter Destination City : delhi

 Enter Distance From pune And delhi: 1000

 Do you want to add more cities.....(y/n) : n

 Do you Want to Continue in Main Menu....(y/n) : y

*** Flight Main Menu *****
1. Create
2. Adjacency Matrix
3. Exit
.....Enter your choice : 2

 Displaying Adjacency Matrix :
        pune    mumbai  delhi
pune    0       500     1000
mumbai  0       0       700
delhi   0       0       0

 Do you Want to Continue in Main Menu....(y/n) : y
```

*** Flight Main Menu *****
1. Create
2. Adjacency Matrix
3. Exit
.....Enter your choice : 3

Process exited after 88.76 seconds with return value 0
Press any key to continue . . .