

// Adjacency Matrix Representation of Graph

```
#include<stdio.h>
```

```
#define V 50
```

```
struct Graph //Graph as Data Structure
```

```
{  
    int adj[V][V];  
    int e;  
    int v;  
};
```

```
void init(struct Graph *ptr)    //initialize adj martix to 0
```

```
{  
    int i,j;  
    for(i = 0; i < V; i++)  
        for(j = 0; j < V; j++)  
            ptr->adj[i][j] = 0;  
}
```

//Add an edge.

```
void addEdge(struct Graph *ptr,int src, int dest) //set adj[src][dest] = 1
```

```
{  
    ptr->adj[src][dest] = 1;  
}
```

```
void printAdjMatrix(struct Graph gh) //print the adjMatrix
```

```
{  
    int i, j;  
  
    for(i = 0; i < gh.v; i++)  
    {  
        for(j = 0; j < gh.v; j++)  
        {  
            printf("%d\t", gh.adj[i][j]);  
        }  
        printf("\n");  
    }  
}
```

```
}
```

```
int main()
```

```
{
```

```
    struct Graph g; //create a graph
```

```
    printf("Enter the number of vertices :");
```

```
    scanf("%d",&g.v);
```

```
    printf("Enter the number of edges :");
```

```
    scanf("%d",&g.e);
```

```
    init(&g); //initialize adj matrix
```

```
    for(i=1;i<=g.e;i++) //add edge
```

```
    {
```

```
        printf("\nEnter the source node value :");
```

```
        scanf("%d",&s);
```

```
        printf("\nEnter the destination node value :");
```

```
        scanf("%d",&d);
```

```
        addEdge(&g,s,d);
```

```
    }
```

```
    printAdjMatrix(g); //print graph
```

```
    return 0;
```

```
}
```