In [1]:

```python
#Get user input of vertices separated by a comma
vertices=input("Enter a list of vertices: ").split(',')

#Create an empty list where the edges will be stored
edges=[]

#Run a while loop that stops when the user is done entering all edges
while(True):
    b=input("Enter an edge separated by commas like 1,2 or type stop to exit: ")
    if(b=="stop"):
        break

#All edges are appended in the list created earlier
    edges.append(b.split(','))

#Create an empty dictionary that will serve as the adjacency list
AdjacencyList={}

#Run a for loop to add the edges into the adjacency list(dictionary)
for i in vertices:
    k=[]

#This loop compares the values in the vertices and edges list and adds all matching val
    for j in edges:
        if i ==j[0]:
            k.append(j[1])
        elif i==j[1]:
            k.append(j[0])
    AdjacencyList[i]=k

print("The Adjacency List is: \n",AdjacencyList)
```

```
Enter a list of vertices: 1,2,3,4,5
Enter an edge separated by commas like 1,2 or type stop to exit: 1,2
Enter an edge separated by commas like 1,2 or type stop to exit: 1,3
Enter an edge separated by commas like 1,2 or type stop to exit: 1,4
Enter an edge separated by commas like 1,2 or type stop to exit: 2,3
Enter an edge separated by commas like 1,2 or type stop to exit: 4,5
Enter an edge separated by commas like 1,2 or type stop to exit: 5,1
Enter an edge separated by commas like 1,2 or type stop to exit: stop
The Adjacency List is:
 {'1': ['2', '3', '4', '5'], '2': ['1', '3'], '3': ['1', '2'], '4': ['1',
'5'], '5': ['4', '1']}
```