AI LAB ASSIGNMENT

SUPRATIM NAG (CSE-AIML/22/57)

Implementation of Best First Search: The first heuristic/informed search algorithm using python

In [3]:
```
from IPython.display import Image
Image(filename="Graph03.png" ,width=200,height=200)
```

Out[3]:

In [4]:
```
from queue import PriorityQueue
```

In [5]:
```
v=14
graph=[[] for i in range(v)]
```

In [6]:
```
def best_first_search(actual_src,target,n):
    visited=[False]*n
    pq=PriorityQueue()
    pq.put((0,actual_src))
    visited[actual_src]=True

    while pq.empty()== False:
        u=pq.get()[1]
        print(u,end="")
        if(u==target):
            break
        for v,c in graph[u]:
            if visited[v]==False:
                visited[v]=True
                pq.put((c,v))

    print()
```

In [7]:
```
def added(x,y,cost):
    graph[x].append((y,cost))
    graph[y].append((x,cost))
```

In [8]:
```
added(0,1,7)
added(0,2,4)
added(1,3,3)
added(1,4,1)
added(2,5,34)
added(2,6,2)
source=0
target=5
```

In [9]:
```
best_first_search(source,target,v)
```

```
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```