Assignment 10:
Ford Fulkerson Algorithm for Max Flow
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Code:
```python
def bfs(rG,s,d,p):
  vis = [0]*len(p)
  q = []
  q.append(s)
  vis[s] = 1
  p[s] = -1
  while q:
      u = q.pop(0)
      for v in range(len(p)):
      if(vis[v]==0 and rG[u][v]):
      if v==d:
            p[v] = u
            vis[v] = 1
             return True
      q.append(v)
      vis[v] = 1
      p[v] = u
   return False

def fordFulkerson(rG,s,d):
  p = [0]*(len(rG[0]))
  mxFlow = 0
  while bfs(rG,s,d,p):
      pFlow = 99999
      v = d
      while v!=s:
      pFlow = min(pFlow,rG[p[v]][v])
      v = p[v]
      v = d
```

```python
        while v!=s:
         rG[p[v]][v]-=pFlow
         rG[v][p[v]]+=pFlow
         v = p[v]
        mxFlow+=pFlow
    return mxFlow

e = int(input("Enter the no of edges:"))
print("Enter the Adjacency Matrix:")
print()
graph = []
for i in range(e):
        graph.append(list(map(int,input().split())))

print("The Max Flow is :",fordFulkerson(graph,0,5))
```

Output:

```
Enter the no of edges:6
Enter the Adjacency Matrix:

0 16 13 0 0 0
0 0 10 12 0 0
0 4 0 0 14 0
0 0 9 0 0 20
0 0 0 7 0 4
0 0 0 0 0 0
The Max Flow is : 23
```