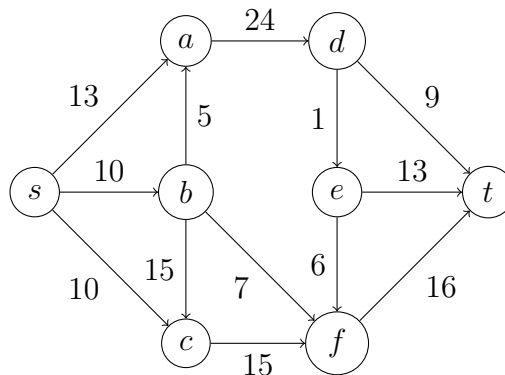


Assignment 9

Recall the statement of the Ford-Fulkerson algorithm as follows:

```
def residualGraph(graph  $G$ , flow  $f$ ):  
    Initialize a new graph  $G_f$  with the same vertices as  $G$   
    for each edge  $e$  in  $G$ :  
        Let  $e^{G_f}$  denote the corresponding edge in  $G_f$   
        Set  $c_{e^{G_f}} = c_e - f(e)$   
        If  $f(e) > 0$ :  
            Let  $e^R$  denote the reverse edge of  $e^{G_f}$ .  
            Set  $c_{e^R} = f(e)$ .  
    return  $G_f$   
  
def FordFulkerson( $G, s, t$ ):  
    Initialize  $f$  as zero flow.  
    while there is an  $s \rightarrow t$  path  $P$  in  $G_f$  where the minimum  
        capacity  $c$  over all the edges in  $P$  is bigger  
        than 0:  
        Set  $f(e) += c$  for all edges  $e$  in  $P$ .
```

Trace through the FordFulkerson algorithm on the following input:



After determining the maximum flow, find an s - t cut with equal cut value.