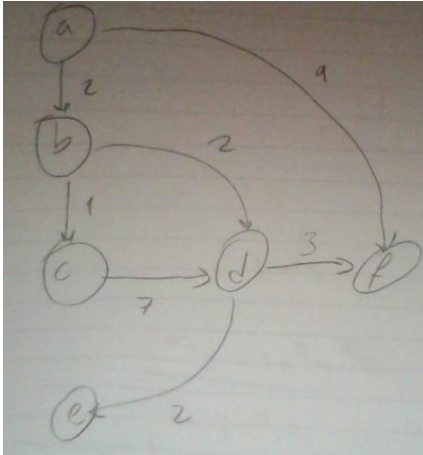


## Dinamik Programlama



Ustteki cizite tekabul eden veriyi kodlayalım

```
DAG = {  
    'a': {'b':2, 'f': 9},  
    'b': {'d':2, 'c':1, 'f': 6},  
    'c': {'d':7},  
    'd': {'e':2, 'f': 3},  
    'e': {'f':4},  
    'f': {}  
}
```

En kısa yolu bulacak program

```
from functools import wraps  
  
def memo(func):  
    cache = {}  
    @wraps(func)  
    def wrap(*args):  
        if args not in cache:  
            print 'miss', args  
            cache[args] = func(*args)  
        else: print 'hit', args  
        return cache[args]  
    return wrap  
  
def rec_dag_sp(W, s, t):  
    @memo  
    def d(u):  
        print ('in u')  
        if u == t: return 0  
        return min(W[u][v]+d(v) for v in W[u])
```

```
    return d(s)

dist = rec_dag_sp(DAG, 'a', 'f')
print 'uzaklik=', dist

miss ('a',)
in u
miss ('b',)
in u
miss ('c',)
in u
miss ('d',)
in u
miss ('e',)
in u
miss ('f',)
in u
hit ('f',)
hit ('d',)
hit ('f',)
hit ('f',)
uzaklik= 7
```