

Lecture 17

Readings 22.2, 22.3

Self test 22.3-2

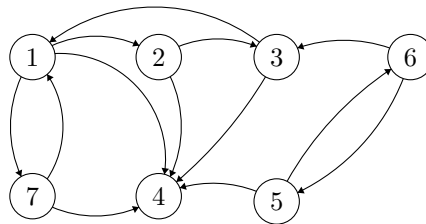
Depth-First Search

```

DFS(V, E) :
  for each v in V:
    colour[v] ← white
    f[v] ← d[v] ← ∞
    p[v] ← NIL
  time ← 0 # global
  for each v in V:
    if colour[v] = white:
      DFS-Visit(G, v)

DFS-Visit(G=(V, E), u) :
  colour[u] ← gray
  d[u] ← time ← time + 1
  for each (u, v) in E:
    if colour[v] == white:
      p[v] ← u
      DFS-Visit(G, v)
  colour[u] ← black
  if[u] ← time ← time + 1

```



```

1 : [2,4,7]
2 : [3,4]
3 : [1,4]
4 : []
5 : [4,6]
6 : [3,5]
7 : [1,4]

```

v	c	p	d	f
1	B		1	10
2	B	1	2	7
3	B	2	3	6
4	B	3	4	5
5	B		11	14
6	B	5	12	13
7	B	1	8	9