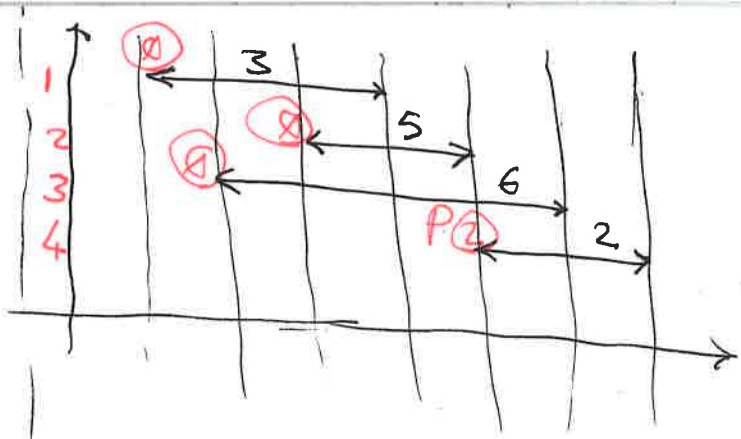
```
Opt(j):
    if (j==0) return 0;
    return max(v_j + Opt(p(j)),
               Opt(j-1))
```



0	1	2	3	4
0	-1	-1	-1	-1

$M = \{0, -1, \ldots, -1\}$

Backward $O(n \log n)$

```
Opt(j):
    if (j==0) return 0
    if (M[j]==-1)
        M[j] = Max(v_j + Opt(p(j)),
                   Opt(j-1))
    return M[j]
```

$K = 1$

$M[1] = \max(3 + M[0], M[0])$

$= 3$

0	3	-1	-1	-1

$K = 2$

$M[2] = \max(5 + M[0], M[2-1])$

Select job 2

$= 5$

0	3	5	-1	-1

$K = 3$

$M[3] = \max(6 + M[0], M[2])$

$= 6$

0	3	5	6	-1

$M = \{0, -1, \ldots, -1\}$

```
opt(j):
    if (j==0) return 0
    for (k=1 to j)
        M[k] = Max(v_k + M[p(k)],
                   M[k-1])
    return M[j]
```

$K = 4$

$M[4] = \max(2 + M[2], M[3])$

$= 7$

Select job 4