Date

Lecture 3

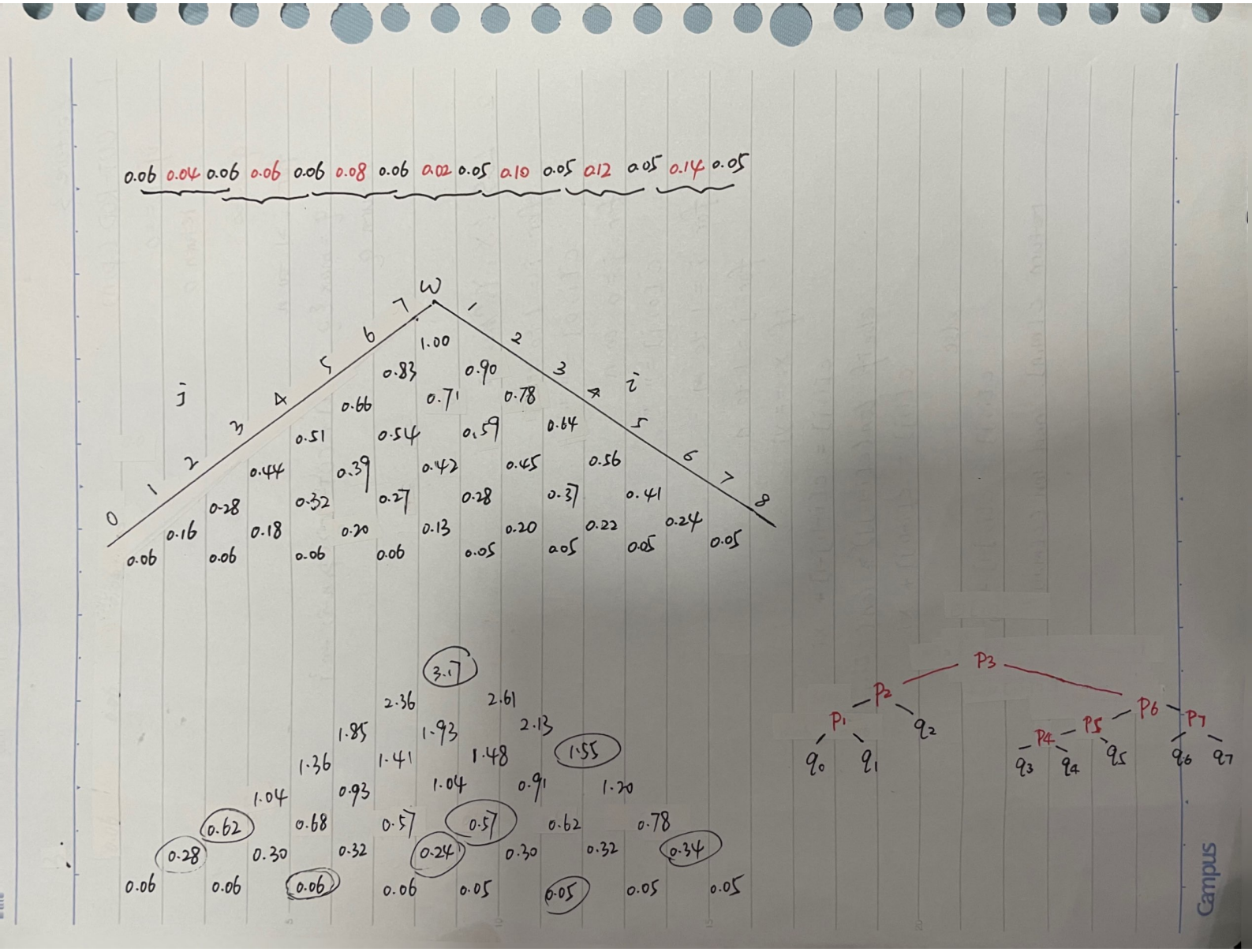
1. CUT-ROD (p, n)

```
if n == 0
    return 0

q = -∞
for i = 1 to n
    q = max{q, p[i] + CUT-ROD(p, n-i) - c}
return q
```

2. LCS (X, Y, m, n)

```
for i = 1 to m
    c[i, 0] = " "
for j = 0 to n
    c[0, j] = " "
for i = 1 to m
    for j = 1 to n
        if xi == yj
            c[i, j] = c[i-1, j-1] + xi
        else if len(c[i-1, j]) ≥ len(c[i, j-1])
            c[i, j] = c[i-1, j] + xi
        else
            c[i, j] = c[i, j-1] + yj
return c[m, n]. and len(c[m, n])
```


0.06 0.04 0.06 0.06 0.06 0.08 0.06 0.02 0.05 0.10 0.05 0.12 0.05 0.14 0.05
W
1.00
0.83 0.90
0.66 0.71 0.78
0.51 0.54 0.59 0.64
0.44 0.39 0.42 0.45 0.56
0.28 0.32 0.27 0.28 0.37 0.41
0.16 0.18 0.20 0.13 0.20 0.22 0.24
0.06 0.06 0.06 0.06 0.05 0.05 0.05 0.05
3.17
2.36 2.61
1.85 1.93 2.13
1.36 1.41 1.48 1.55
1.04 0.93 1.04 0.91 1.20
0.62 0.68 0.57 0.57 0.62 0.78
0.28 0.30 0.32 0.24 0.30 0.32 0.34
0.06 0.06 0.06 0.06 0.05 0.05 0.05 0.05
P3
P2 P6
P1 q2 P4 P5 P7
q0 q1 q3 q4 q5 q6 q7