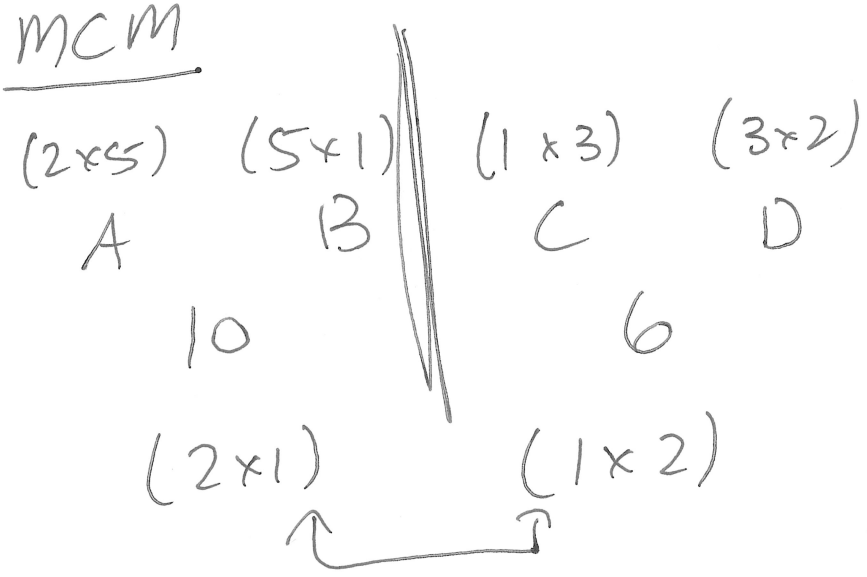
# COP 4516 3/26/24

1. FRIDAY (I arrive 9:20, psets sitting @ table (loaded sys)
2. MCM
3. Removing Digits (cses.fi)
4. Projects (cses.fi)

→ **MCM**




10+6+4 = 20

(AB)(CD)

given things in a row. Can pick any split point recursively solve LEFT, RIGHT cost combine

$(r_1 \times c_1)$ $(r_2 \times c_2)$

$c_1 = r_2$

Cost: $r_1 \times c_1 \times c_2$

Recursion is SLOW

Memoize solution

# MCM "MOLD"

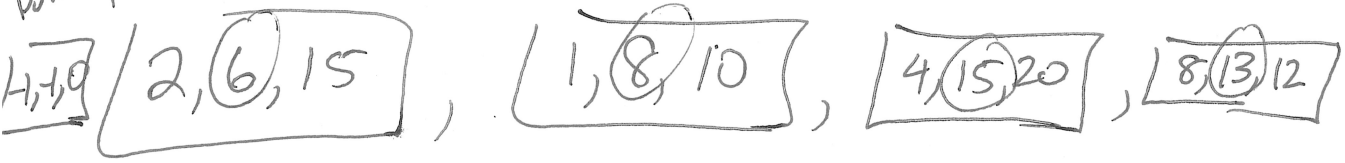
```
f(int s, int e) {

    if (s == e) return 0; // or base case
    if (dp[s][e] != -1) return dp[s][e];
    int ans = ∞;
    for (i = s; i < e; i++) {
        int left = f(s, i);
        int right = f(i+1, e);
        int combine = cost(s, i, e);
        int tmp = left + right + combine;
        ans = min(ans, tmp);
    }
    return dp[s][e] = ans;
}
```

# Projects

Sort by end time

Dummy




~~dp[i]~~

0+10

0 15 15 20 27

dp[i] = max money I can make at or before project i

Vector <end, start, money>

↑ SORT

vvi(n, vi(m,i))