```
int[ ][ ] multiply(int[ ][ ] A, int[ ][ ] S, int i, int j)
    if i == j then
        return A[ ]i
    else
        int[ ][ ] X = multiply(last[][], i, last[i][j])
        int[ ][ ] Y = multiply(last[][], last[i][j] + 1, j)
        return multiplyMatrices(X, Y)
```