Imran Ashraf
BSITS072210006

| | 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|---|
| P | 5 | 3 | 2 | 6 | 2 | 4 |

Quiz # 03:

IT-(III)

Algorithm:

```
n ← P.length - 1
let m be a matrix of size m[n×n] & s[n×n]
for i ← 1 to n
    m[i,i] ← 0
    s[i,i] ← 0
for l ← 2 to n
    for i ← 1 to n-l+1
        j ← i+l-1
        m[i,j] ← ∞
            for k ← i to j-1
                q ← m[i,k] + m[k+1,j] + Pi Pk+1 Pj+1
                    if q < m[i,j]
                        m[i,j] ← q
                        s[i,j] ← k
return s and m.
```

Date:...../...../20.....  M□T□W□T□F□S□

# Optimal way to calculate matrices:

To find optimal way to calculate the matrices, use the matrix 's'. Start with the top-left element of 's' and traverse it diagnally until you reach the bottom right. This will give you the split points for multiplying the matrices optimally.

```
printOptimalBrackets (int [][] s, int i, int j)

    if  i == j

        Show "M" + i

    else

        show "("

    PrintOptimalBrackets (s, i, s[i][j])
    PrintOptimalBrakets (s, s[i][j]+1, j)

    Show ")"
```