

Turma: 11

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Matrícula: 20.1.4003

1. Algoritmo Recursivo

```
MSP(s[n], begin, end) {  
    if (begin > end) {  
        return 0;  
    }  
    if (begin == end) {  
        return 1;  
    }  
    if (s[begin] == s[end]) {  
        return 2 + MSP_Rec(s, begin+1, end-1);  
    }  
    else {  
        return max(MSP_Rec(s, begin, end-1), MSP_Rec(s, begin+1, end));  
    }  
}
```

2. Algoritmo de Memorização

```
MSP(s[n], m[n][n], begin, end) {  
    if (begin > end) {  
        return 0;  
    }  
    if (begin == end) {  
        return 1;  
    }  
    if (!isset(m[begin, end])) {  
        if (s[begin] == S[end]) {  
            m[begin, end] = 2 + MSP(s, m, begin+1, end-1);  
        }  
        else {  
            m[begin, end] = max(MSP(s, m, begin, end-1), MSP(s, m, begin+1, end));  
        }  
    }  
    return m;  
}
```

3. Algoritmo Iterativo

```
MSP(s[n], m[n][n]) {  
    for (i = inicio, i < fim; i++) {  
        m[i, i] = -1;  
    }  
    for (tam = 2; i < n; tam++) {  
        for (i = 1; i < n - tam + 1; i++) {  
            j = i + tam - 1;  
            if (s[i] == s[j] && tam == 2) {  
                m[i, j] = 2;  
            }  
            else if (s[i] == s[j]) {  
                m[i, j] = 2 + m[i+1, j-1];  
            }  
            else {  
                m[i, j] = max(m[i, j-1], m[i+1, j]);  
            }  
        }  
    }  
    return m;  
}
```