Universidade Federal de Roraima
Tarefa para o seminário de Análise de Algoritmo
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$$\sum_{l=1}^{10000}\sum_{i=1}^{n-5}\sum_{j=i+2}^{\frac{n}{2}}\sum_{k=1}^{n} 1 = \sum_{l=1}^{10000}\sum_{i=1}^{n-5}\sum_{j=i+2}^{\frac{n}{2}} n = \sum_{l=1}^{10000}\sum_{i=1}^{n-5} n\left(\frac{n}{2}-(i+2)+1\right) = \sum_{l=1}^{10000}\sum_{i=1}^{n-5} n\left(\frac{n}{2}-i-1\right)$$

$$= \sum_{l=1}^{10000}\left[n\left(\sum_{i=1}^{n-5}\frac{n}{2} - \sum_{i=1}^{n-5} i - \sum_{i=1}^{n-5} 1\right)\right] = \sum_{l=1}^{10000}\left[n\left(\frac{n}{2}(n-5) - \frac{(n-5)((n-5)+1)}{2} - (n-5)\right)\right]$$

$$= \sum_{l=1}^{10000}\left[n\left((n-5)\left(\frac{n}{2} - \frac{n-5+1}{2} - 1\right)\right)\right] = \sum_{l=1}^{10000}\left[n\left((n-5)\left(\frac{n}{2} - \frac{n-4}{2} - \frac{2}{2}\right)\right)\right]$$

$$= \sum_{l=1}^{10000}\left[n\left((n-5)\left(\frac{n+n+4-2}{2}\right)\right)\right] = \sum_{l=1}^{10000}\left[n\left((n-5)\left(\frac{2(n+1)}{2}\right)\right)\right]$$

$$= \sum_{l=1}^{10000}\left[n(n^2-4n-5)\right] = \sum_{l=1}^{10000}(n^3-4n^2-5n) = \underbrace{(n^3-4n^2+5n)(10000)}_{\text{Custo}}$$

Complexidade = $O(n^3)$

```
VerificaAlgo(n:int) {
   i, j, k, l: int ;
   para l := 1 TO 10.000 faça
      para i := 1 TO n-5 faça
         para j:= i+2 TO n/2 faça
            para k := 1 TO n faça
               {inspecione elemento}
}
```