Relatório Projeto 4.1 AED 2021/2022

Nome: Nº Estudante:

PL (inscrição): *Login* no *Mooshak:*

**Tabela (S1) Gráfico (S1)**

|  |  |
| --- | --- |
| Número N de valores de elevação | Tempo(s) |
| 100000 | 6,523578882 |
| 200000 | 26,15740204 |
| 300000 | 61,64867496 |
| 400000 | 113,5491571 |
| 500000 | 167,2885079 |
| 600000 | 243,448163 |
| 700000 | 321,4099848 |
| 800000 | 419,761744 |
| 900000 | 503,507355 |
| 1000000 | 614,3372881 |

A expressão O(f(n)) para a complexidade temporal está de acordo com o esperado para as soluções S1 e S2? Justifique.

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Qual a expressão O(f(n)) para a complexidade espacial nas soluções S1 e s2? Justifique.

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Relatório Projeto 4.2 AED 2021/2022

Nome: Nº Estudante:

PL (inscrição): *Login* no *Mooshak:*

**Tabela (S3) Gráfico (S3)**

Complexidade temporal da função PERCENTIL em ordem ao número M

de valores para os quais é calculado o percentil e ao número N de valores de elevação na matriz raster.  
Considerar na complexidade temporal o tempo de ordenamento quando se aplicar.

SUGESTÃO: usar M = N, ex. M = N = 100K 200K .. 1000K

(1) Descreva sucintamente as otimizações feitas ao QuickSort. A expressão O(f(n)) está de acordo com o esperado? Justifique.

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Qual a expressão O(f(n)) para a complexidade espacial na solução S3? Justifique.

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Relatório Projeto 4.3 AED 2021/2022

Nome: Nº Estudante:

PL (inscrição): *Login* no *Mooshak:*

**Tabela (S4) Gráfico (S4)**

Complexidade temporal da função PERCENTIL em ordem ao número M

de valores para os quais é calculado o percentil e ao número N de valores de elevação na matriz raster.  
Considerar na complexidade temporal o tempo de ordenamento quando se aplicar.

SUGESTÃO: usar M = N, ex. M = N = 100K 200K .. 1000K

A expressão O(f(n)) está de acordo com o esperado? Justifique.

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Qual a expressão O(f(n)) para a complexidade espacial na solução S4? Justifique.

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Relatório Projeto 4.4 AED 2021/2022

Nome: Nº Estudante:

PL (inscrição): *Login* no *Mooshak:*

**S1 - Tabela (complexidade temporal) S2 - Tabela (complexidade temporal)**

**S3 - Tabela (complexidade temporal) S4 - Tabela (complexidade temporal)**

**Gráfico de Complexidade Temporal S1 .. S4 (escala logarítmica)**

Explique sucintamente a implementação "força bruta" implementada em S1. E a solução implementada em S4.

Desenvolva os comentários que considere relevantes sobre a complexidade temporal vs espacial das várias implementações da solução.

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