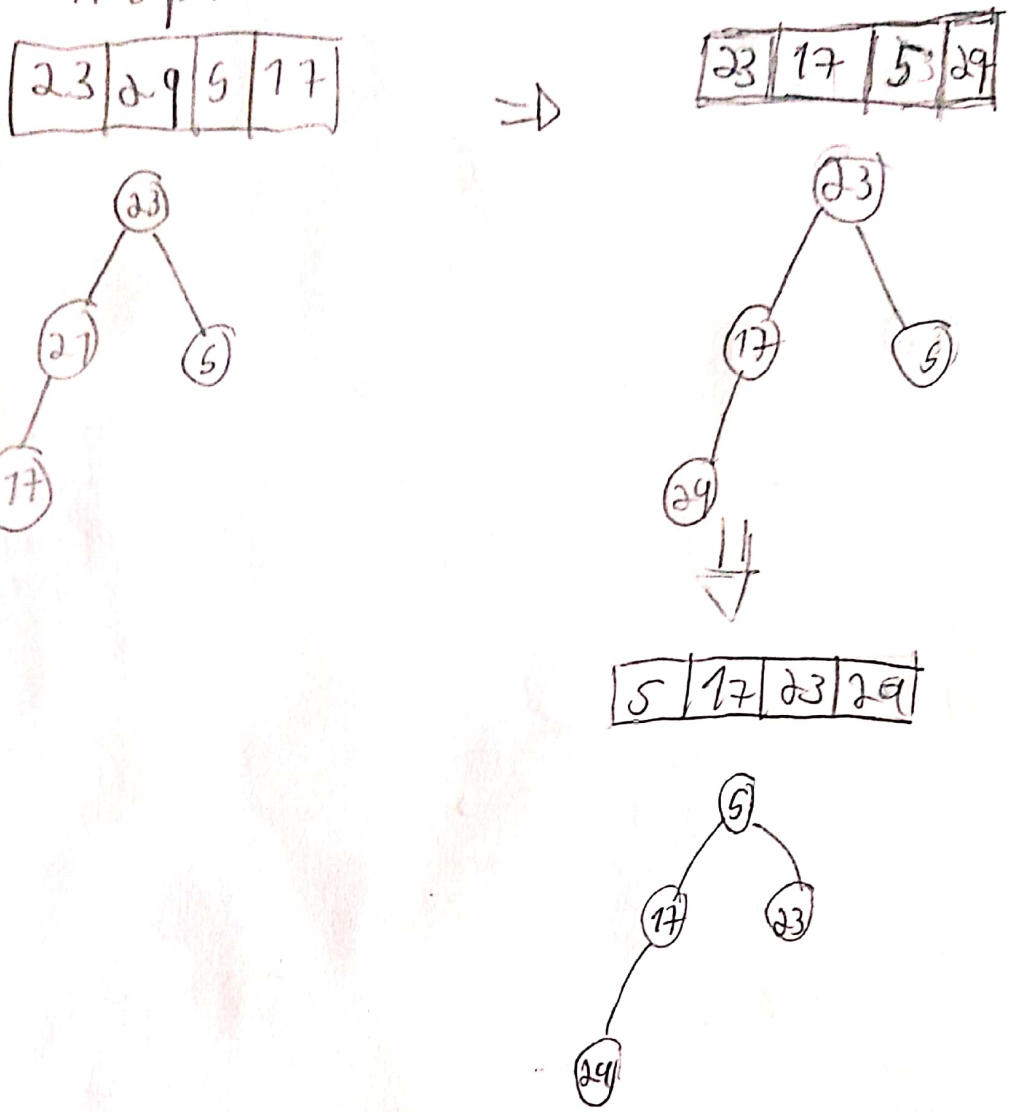
Exercício sobre Merge Sort externo

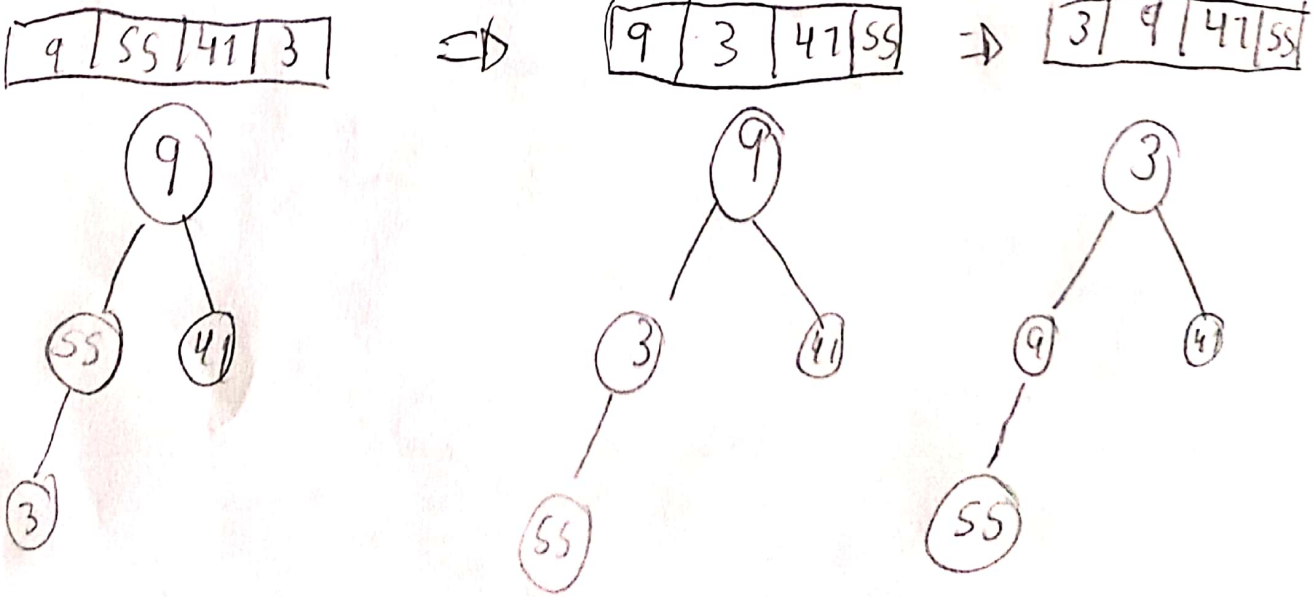
Guilherme de Souza Pinto da Silva

1º Passo

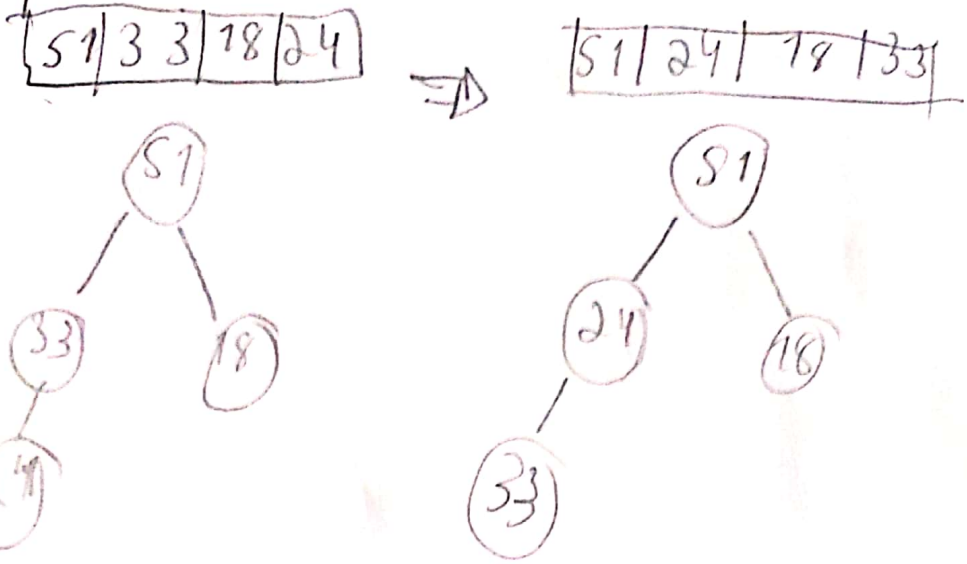
a) 1º Heap:

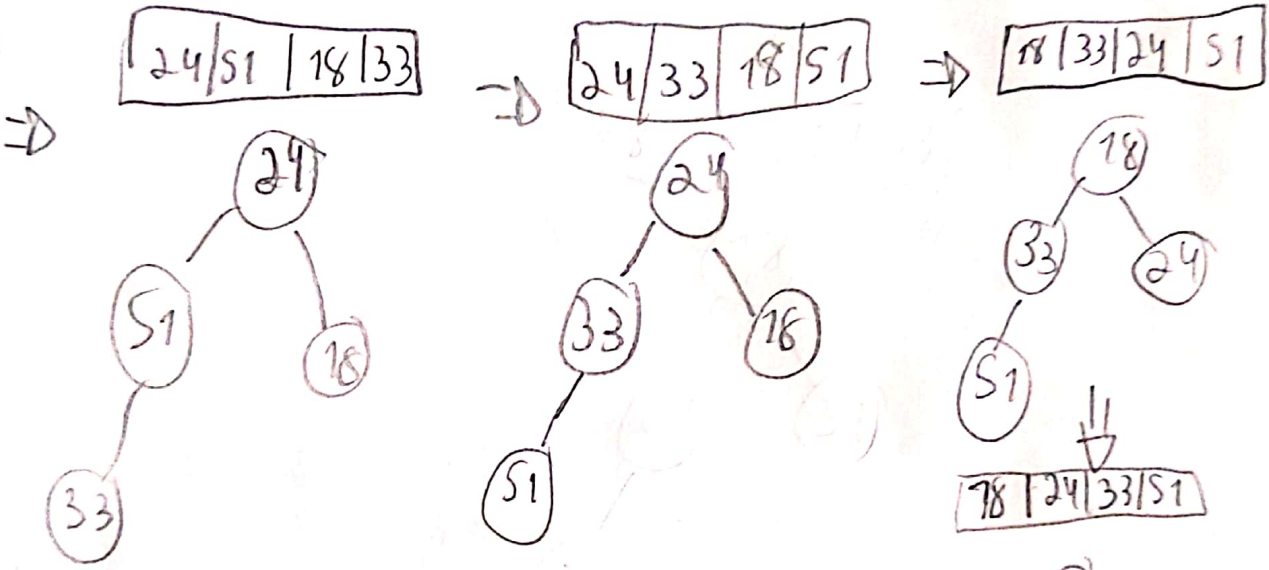



2º Heap:

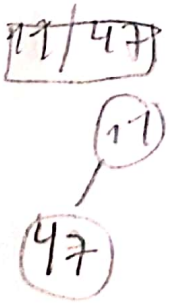


3º Heap:

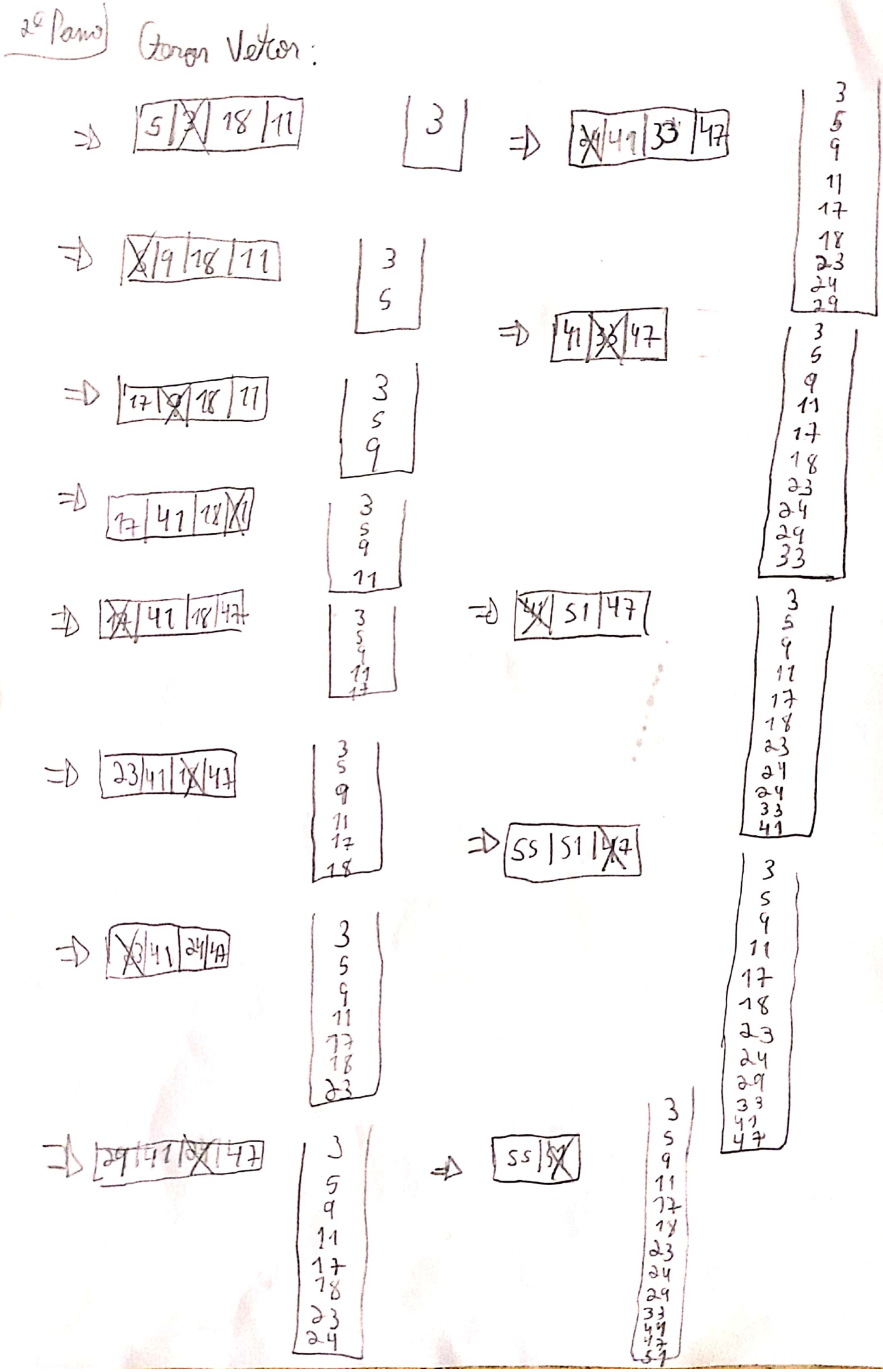



4º Heap:



2º Passo) Gerar Vetor:



3
5
9
11
18
23
24
29
33
41
47
51
55

b) 2-2 Vias:

⇒ [5 | X] / [18 | X] — 3 / 11

⇒ [X | 9] / [18 | 47] — 3 5 / 11 18

⇒ [17 | X] / [23 | 47] — 3 5 9 / 11 18 33

⇒ [X | 41] / [51 | X] — 3.5.9.17 / 11, 18, 33, 47

⇒ [X | 41] / [X] — 3.5.9.17.23 / 11. 18. 33.47.51

⇒ [X | 41] / — 3.5.9.17.23.29 / 11. 18. 33.47.51

⇒ [41] / — 3.5.9.17.23.29.41 / 11. 18. 33. 47.51

⇒ [X] — 3.5.9.17.23.29.41 55 / 11. 18 33. 47.51

1-2 Vias:

⇒ [X | 11] 3.

⇒ [X | 11] 3.5

⇒ [X | 11] 3.5.9

⇒ [17 | X] 3.5.9.11

⇒ [X | 18] 3.5.9.11.17

⇒ [23 | X] 3.5.9.11.17.18

⇒ [X | 33] 3.5.9.11.17.18.23

⇒ [X | 33] 3.5.9.11.17.18.23.29

⇒ [41 | X] 3.5.9.11.17.18.23.29.33

⇒ [X | 47] 3.5.9.11.17.18.23.29.33.41

⇒ [55 | X] 3.5.9.11.17.18.23.29.33.41.47

⇒ [55 | X] 3.5.9.11.17.18.23.29.33.41.47.51

⇒ [X] 3.5.9.11.17.18.23.29.33.41.47.51.55

c) Memória (P=4) — Saída:

1ª Corrida:

23 29 5 17 — 5

2329 9 17 — 5 9

2329 55 17 — 5 9 17

29 55 41 — 5.9.17.23

3 55 41 — 5.9.17.2329

* não pode sair

3 51 55 41 — 5.9.17.23.29.41

3 55 33 — 5.9.17.23.29.41.51

3 18 33 — 5.9.17.23.29.41.51.55

3 18 24 33

2ª Corrida:

18 24 33 — 3.

18 24 33 — 3.17

47 24 33 — 3.17.18

47 24 33 — 3.17.18.24

47 33 — 3.17.18.24.33

47 — 3.17.18.24.33.47

A situação ideal seria que os números formassem grupos com ordem crescente na saída ao se retirar o menor do grupo