Binary Search and InterPolation Search

2, 5, 10, 20, 25, 27, 40, 41, 50, 70

Binary

Search(70) Search(40) Search(25) Search(50)

low = 0, high = 9 low = 0, high = 9 low = 0, high = 9 low = 0, high = 9

mid = (0 + 9) / 2 = 4 mid = (0 + 9) / 2 = 4 mid = (0 + 9) / 2 = 4 mid = (0 + 9) / 2 = 4

70 > 25 (1) 40 > 25 (1) 25 = 25 (1) 50 > 25 (1)

low = 5, high = 9 low = 5, high = 9 low = 5, high = 9

mid = (5 + 9) / 2 = 7 mid = (5 + 9) / 2 = 7 mid = (5 + 9) / 2 = 7

70 > 41 (2) 40 < 41 (2) 50 < 41 (2)

low = 8, high = 9 low = 5, high = 6 low = 8, high = 9

mid = (8 + 9) / 2 = 8 mid = (5 + 6) / 2 = 5 mid = (8 + 9) / 2 = 8

70 > 50 (3) 40 > 27 (3) 50 = 50 (3)

low = 9, high = 9 low = 6, high = 6

mid = (9 + 9) / 2 = 9 mid = (6 + 6) / 2 = 6

70 = 70 (4) 40 = 40 (4)

InterPolation

Search(70) Search(40) Search(25) Search(50)

low = 0, high = 9 low = 0, high = 9 low = 0, high = 9 low = 0, high = 9

pos = pos = pos = pos =

= 0 + 9 = 0 + 5,029 = 0 + 3,044 = 0 + 0,705

= 9 = 5 = 3 = 7

70 = 70 (1) 40 > 27 (1) 25 > 20 (1) 50 > 41 (1)

low = 6, high = 9 low = 4, high = 9 low = 8, high = 9

pos = 3 pos = 5 pos = 1

= 6 + 0 = 4 + 0 = 8 + 0

= 6 = 4 = 8

40 = 40 (2) 25 = 25 (2) 50 = 50 (2)

|  |  |  |
| --- | --- | --- |
| Data Cari | Langkah | |
| Binary Search | Interpolition Search |
| 70 | 4 | 1 |
| 40 | 4 | 2 |
| 25 | 1 | 2 |
| 50 | 3 | 2 |
| Rata-rata | 12/4 | 7/4 |