Using the Binary Search Algorithm and trace table examples at the end of this document, complete the trace tables below for the Color Array. Upload this document to github and submit the link to your repository to the dropbox.

1st search: violet

|  |  |  |  |
| --- | --- | --- | --- |
| **First** | **Last** | **Middle** | **Comparison** |
| 0 | 10 | 5 | Violet > indigo |
| 5 (5+1) | 10 [(10+6)/2=8)] | 8 | Red < violet |
| 9 (8+1) | 10 [(10+/2=9.5->9) | 9 | Violet = violet  Return: true |

2nd search: green

|  |  |  |  |
| --- | --- | --- | --- |
| **First** | **Last** | **Middle** | **Comparison** |
| 0 | 10 | 5 | Green < indigo |
| 0 | 4 [(5-1)/2=2] | 2 | Green > Chartreuse |
| 3 (2+1) | 4 [(3+4)/2=3.5->3] | 3 | Green > Dark Brown |
| 4 (3+1) | 4 [(4+4)/2=4] | 4 | Green = green  Return: true |

3rd search: yellow

|  |  |  |  |
| --- | --- | --- | --- |
| **First** | **Last** | **Middle** | **Comparison** |
| 0 | 10 | 5 | Yellow > indigo |
| 6 (5+1) | 10 [(10+6)/2=8] | 8 | Yellow > red |
| 9 (8+1) | 10 [(10+9)/2=9.5->9 | 9 | Yellow > violet |
| 10 (9+1) | 10 [(10+10)/2=10] | 10 | Yellow = yellow  Return: true |

**Color array**:

|  |  |
| --- | --- |
| aqua | [0] |
| brown | [1] |
| chartreuse | [2] |
| dark brown | [3] |
| green | [4] |
| indigo | [5] |
| lavender | [6] |
| magenta | [7] |
| red | [8] |
| violet | [9] |
| yellow | [10] |

A white background with black text

Description automatically generated

Above: Binary Search Algorithm

A screenshot of a computer

Description automatically generated