Binary Search Tree:

|  |  |
| --- | --- |
| N Keys | Put Operations |
| 100 |  |
| 1000 |  |
| 10000 |  |

Red-Black Tree:

|  |  |
| --- | --- |
| N Keys | Put Operations |
| 100 |  |
| 1000 |  |
| 10000 |  |

As the number of put operations increases linearly with a 10-fold increase in the number of keys (not distinct), the runtime is logarithmic, following the equation alog(N), where a =

6.

a)

b)