**Selection Sort:**

**Analysis Table:-**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Input** | **Best Case** | | | **Average Case** | | | **Worst Case** | | |
|  | **Instruction** | **Compare** | **Exchange** | **Instruction** | **Compare** | **Exchange** | **Instruction** | **Compare** | **Exchange** |
| **5** | 47 | 14 | 0 | 59 | 14 | 3 | 59 | 14 | 2 |
| **10** | 147 | 54 | 0 | 173 | 54 | 6 | 187 | 54 | 5 |
| **15** | 297 | 119 | 0 | 334 | 119 | 8 | 347 | 119 | 7 |
| **20** | 497 | 209 | 0 | 554 | 209 | 12 |  |  |  |
| **25** | 747 | 324 | 0 | 827 | 324 | 17 |  |  |  |

**COMPLEXITY:-**

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **INSTRUCTION** | | | **COMPARE** | | | **EXCHANGE** | | |
|  | **BEST CASE** | **AVERAGE**  **CASE** | **WORST CASE** | **BEST CASE** | **AVERAGE**  **CASE** | **WORST CASE** | **BEST CASE** | **AVERAGE**  **CASE** | **WORST CASE** |
| **Practical Complexity** |  |  |  |  |  |  |  |  |  |
| **Theoretical Complexity** |  |  |  |  |  |  |  |  |  |