

DS Lab 06

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Clerk should use Selection Sort since it minimizes the number of exchanges. In worst case, number of exchanges in selection sort is $n-1$. As the cost of exchanges in our scenario is high, Selection Sort is the best sorting method that the clerk should use. The number of comparisons in selection sort is $O(n^2)$.

Sample code for selection sort:

```
void SelectionSort(int arr[], int size)
{
    int i, j, k;
    for (i = 0; i < size; i++)
    {
        k = i;
        for (j = i; j < size; j++)
        {
            if (arr[j] < arr[k])
            {
                k = j;
            }
        }
        swap(arr[i], arr[k]);
    }
}
```