Select Sort

time complexity

```
void selectSort(int arr[], int n) {
    for (int i = n - 1; i >= n-8; i--) {
        Si+=5;
        int maxIndex = i;
        Si+=2;
        for (int j = i - 1; j >= 0; j--) {
            Sj += 4;
            if (arr[j] > arr[maxIndex]) {
                maxIndex = j;
                Sif+=2;
            }
        }

        // Swap the found maximum element with the element at index i
        swap(arr[maxIndex], arr[i]);
        Si++;

    }
```

$$\sum_{i=n-8}^{n-1} * \sum_{i=0}^{i-1} = O(8) \times O(N)$$

$$O(8 \times N)$$

$$O(8 * N)$$

Merge Sort

Merge = $\log(n)$

Merge Sort = N

$\log N \times N$

$O(N \log N)$