

Bubble Sort %

```
void bubble_sort (int A[], int n) {
```

```
    for (i=0; i < n-1; i++) {
```

```
        flag = 0;
        for (j=0; j < n-1-i; j++) {
```

```
            if (A[j] > A[j+1]) {
```

```
                temp = A[j];
```

```
                A[j] = A[j+1];
```

```
                A[j+1] = temp;
```

```
                flag = 1;
```

```
            }
```

```
        }
```

```
        if (flag == 0) { break; }
```

```
    }
```

```
}
```


☐ selection sort :

```
void selection_sort (int A[], int n) {
```

```
    for (i=0 ; i < n-1 ; i++) {
```

```
        min = i;
```

```
        for (j=i+1 ; j < n ; j++) {
```

```
            if (A[j] < A[min]) {
```

```
                min = j;
```

```
            }
```

```
        } elseif (min != i) {
```

```
            temp = A[i];
```

```
            A[i] = A[min];
```

```
            A[min] = temp;
```

```
        }
```

```
    }
```

```
}
```

```
}
```

Insertion sort

```
void insertion_sort (int A[], int n) {
```

```
    for (i = 1; i < n; i++) {
```

```
        temp = A[i];
```

```
        j = i - 1;
```

```
        while (j >= 0 && A[j] > temp) {
```

```
            A[j+1] = A[j];
```

```
            j--;
```

```
        }  
        A[j+1] = temp;
```

```
    }
```

```
}
```


Linear search:

```
int a[];
```

```
for (i = 0; i < n; i++) {
```

```
    if (a[i] == s-data) {
```

```
        cout << "data found";
```

```
    }
```

```
}
```

Binary search:

```
int binary_search (int A[], int n, int data) {
```

```
    int l, r, mid;
```

```
    l = 0;
```

```
    r = n - 1;
```

```
    mid = (l + r / 2);
```

```
    if (data == A[mid]) { return mid; }
```

```
    else if (data > A[mid]) { l = mid + 1; }
```

```
    else if (data < A[mid]) { r = mid - 1; }
```

```
}
```