1. (50 pts) The following code is supposed to implement the binary search algorithm. Fill the blanks so that it works correctly. The `binarySearch` method takes an integer array “list” and an integer “key” as inputs. It returns the position of “key” in “list” if “list” contains “key”; otherwise returns -1;

```java
public static int binarySearch( int[] list, int key) {
    int low = 0;
    int high = list.length - 1;
    while (high >= low) {
        int mid = (low + high) / 2;
        if (key < list[mid])
            high = mid - 1;
        else if (key == list[mid])
            return mid;
        else
            low = mid + 1;
    }
    return -1;
}
```

2. (50 pts) The following code is supposed to implement the selection sort algorithm. Fill the blanks so that it works correctly. The `selectionSort` method sort the input array “list” in **ascending** order.

```java
public static void selectionSort(double[] list) {
    for (int i = 0; i < list.length - 1; i++) {
        double currentMin = list[i];
        int currentMinIndex = i;
        for (int j = i + 1; j < list.length; j++) {
            if (currentMin > list[j]) {
                currentMin = list[j];
                currentMinIndex = j;
            }
        }
        if (currentMinIndex != i) {
            list[currentMinIndex] = list[i];
            list[i] = currentMin;
        }
    }
}
```