Phase-1 Practice Project: Assisted Practice

8.Writing a program in java implementing the quick sort algorithm.

Source code:

```
public class QuickSort
{
  int partition(int arr[], int low, int high)
  {
     int pivot = arr[high];
     int i = (low-1);
     for (int j=low; j<high; j++)
     {

        if (arr[j] <= pivot)
        {
           i++;
           int temp = arr[i];
           arr[i] = arr[j];
           arr[j] = temp;
        }
     }
     int temp = arr[i+1];
     arr[i+1] = arr[high];
     arr[high] = temp;
     return i+1;
  }
  void sort(int arr[], int low, int high)
  {
     if (low < high)
     {
        int pi = partition(arr, low, high);
        sort(arr, low, pi-1);
        sort(arr, pi+1, high);
     }
  }
  static void printArray(int arr[])
  {
     int n = arr.length;
     for (int i=0; i<n; ++i)
        System.out.print(arr[i]+" ");
     System.out.println();
  }
  public static void main(String args[])
  {
     int arr[] = {2, 6, 32, 9, 5, 14};
     int n = arr.length;
     QuickSort ob = new QuickSort();
     ob.sort(arr, 0, n-1);
     System.out.println("sorted array");
```

```
        printArray(arr);
    }
}
```

Output: