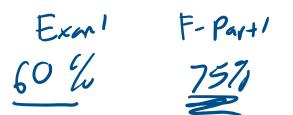
CSE 12 — Basic Data Structures and Object-Oriented Design Lecture 13

Greg Miranda, Fall 2020

Announcements

- Quiz 13 due Wednesday @ 9am
- Survey 5 due Friday @ 11:59pm
- PA4 due Wednesday @ 11:59pm
- Exam 1 Grades Returned —> 5yllabus
 - Average: 24.11 77.7%
 - Total Points: 31



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Topics

- Partition/Sort
- Questions on Lecture 13?

QuickSort – Draw the picture of sort()

```
public class Sort {
public static void swap(String[] array, int i1, int i2) {
  String temp = array[i1];
  array[i1] = array[i2];
  array[i2] = temp;
 public static int partition(String | array, int low, int high) {
  int pivotStartIndex = high - 1;
  String pivot = array[pivotStartIndex];
  int smallerBefore = low, largerAfter = high - 2;
  while (smallerBefore <= largerAfter) {
   if (array[smallerBefore].compareTo(pivot) < 0) {
    smallerBefore += 1;
   else {
    swap(array, smallerBefore, largerAfter);
    largerAfter -= 1:
  swap(array, smallerBefore, pivotStartIndex);
  return smallerBefore:
```

```
public static void qsort(String | array, int low, int high) {
  if (high - low \leq 1) { return; }
  int splitAt = partition(array, low, high);
  qsort(array, low, splitAt);
  qsort(array, splitAt + 1, high);
 public static void sort(String∏ array) {
  qsort(array, 0, array.length);
main() {
 String[] str = {"f", "b", "a", "e", "d", "c" };
 int | result = Sort.sort(str);
 System.out.println(Arrays.deepToString(result));
```

Questions on Lecture 13?