

**Tiverton High School Year 11** J277 GCSE Computer Science Knowledge Organiser / Recap Part 7: Sorting and Searching

# Unit 2.1.3 Linear Search

Linear search means searching in a straight line from one end of the data to another until you find what you are looking for.



# Unit 2.1.3 Binary Search

Begin with sorted set of data. Search for target value POE12



### Unit 2.1.3 Bubble Sort

Start with the first two data values.

Repeat

Compare the current value with the next value. Are they in the correct order?

If the values are in the wrong order then swap them around.

Move along one item.

Until you have checked the last pair of values.

If you made any swaps at all, repeat the whole process again.

# Unit 2.1.3 Insertion Sort

Begin with set of data to be sorted.

Create a new empty list to hold the sorted data.

Repeat

Start with the first unsorted item.

Insert the first item into the list of sorted items at the correct place. SORTED DATA

Until the unsorted list is empty

POE12

BAC97, POE12 BAC97, FLY77, POE12, BAC97, JAV16, FLY77, POE12. BAC97, JAV16, FLY77, POE12, TAL86 AND18, BAC97, JAV16, FLY77, POE12, TAL86,

# Unit 2.1.3 Merge Sort

Split the data into individual lists that contain one data value each.

Repeatedly combine (merge) pairs of lists, adding the first value from each list into the merged list.



POE12,	BAC97,	FLY77,	JAV16,	TAL86,	AND18
BAC97,	POE12,	FLY77,	JAV16,	TAL86,	AND18
BAC97,	POE12,	FLY77,	JAV16,	TAL86,	AND18
BAC97,	FLY77,	POE12,	JAV16,	TAL86,	AND18
BAC97,	FLY77,	POE12,	JAV16,	TAL86,	AND18
BAC97,	FLY77,	JAV16,	POE12,	TAL86,	AND18
BAC97,	FLY77,	JAV16,	correct of <b>POE12</b> ,	TAL86,	AND18
BAC97,	FLY77,	JAV16,	TAL86,	POE12,	AND18
BAC97,	FLY77,	JAV16,	TAL86,	AND18,	POE12
End of a single pass through the data. Swaps were made so carry out another pass.					

