PQsort function

To start off, PQsort starts at the root and we determine how many elements each processor receives. We also load the sizes of each processor into send\_count and then the displacement of each processor is stored in displacements. Both send\_count and displacements need to have storage allocated to them with a size determined by how many processors there are.

MPI\_Scatter is executed as MPI\_Scatter(send\_count, 1, MPI\_INT, &recCnt, 1, MPI\_INT, root, MPI\_COMM\_WORLD) so we can receive the size of each processor (returned as recCnt). With that data we allocate space for our new array localarray and it has the size of recCnt (receive count). Now we can call MPI\_Scatterv(elements, send\_count,displacements, MPI\_INT, localArray, recCnt, MPI\_INT, 0, MPI\_COMM\_WORLD) so that we can give each process the (possibly varying) data.

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