Project 2 Part 1

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Steps to run the code

- run make

- run cmake with output dir as "build"

- gtests will be built as an executable in build/gtests

- run $a2\_1\_gtest$

Summary of code

Major part of the code is in BigQ.cc and some in Run.cpp

0.1 BigQ.cc

tpmmp: This the function that is called that is run by the pthread created in the BiqQ's constructor.

pass1: In this function we go over all the records in the input pipe and add them to a buffer vector of pages with len = runlen. When this vector is filled we sort it and write it to the file. The sort and write part is done by a helper fucntion with name sortAndWrite. SortandWrite function returns a Run reference. We add this the vector of runs maintained by pass1. ANd

we finally return the vetor of Runs.

pass2 Pass two creates a priority queue with one element from each of the runs. one it pops out and pushes a record to the out pipe, it adds an element from the same run.

init This file just creates the tmp file in which all the data is written in pass1.

cleanup This function deletes the created tmp file and close the output file.

0.2   Run.cpp

<u>**Run**</u>: This is class with tells the start page and end page of every run.

<u>**RunRecord**</u> : This is just a wrapper for a record with the id of the the run that it is in.

Output screen shots

Figure 1: Screen shot of output.txt

Figure 2: Screen shot gtest execution