Question 6 (7 marks)

Consider the following scenario:

- R is a relation with bR = 40 data pages and no overflow pages
- S is a relation with bS = 20 data pages and no overflow pages
- a buffer pool with N = 25 buffers

Ignoring the cost of writing the final result tuples, calculate *minimum cost* estimates for the *(R ⋈ S)* operation for each of following join strategies:

a. block nested loop join, where you can choose either table as the outer relation

b. sort-merge join, where neither table is sorted initially

c. sort-merge join, where R is initially sorted, but S is not

d. sort-merge join, where S is initially sorted, but R is not

e. sort-merge join, where both tables are initially sorted

For each cost, show the *minimum number* of buffers required to acheive this cost.

Show all working.

Instructions:

- Type your answer to this question into the file called `q6.txt`
- Submit via: **`give cs9315 exam_q6 q6.txt`**
  or via: Webcms3 > exams > Final Exam > Q6 submission > Make Submission

End of Question