National University of Computer and Emerging Sciences, Lahore Campus

Course:	Data Warehousing & Data Mining	Course Code:	CS409
Program:	BS(Computer Science)	Semester:	Fall 2018
Duration:	15 minutes	Total Marks:	10
Date:	Tue 30-Oct-2018	Weight	
Section:	CS	Page(s):	1
Exam:	Quiz 3 (Joining Techniques)		

Question:
Consider the following tables and statistics which are part of a student system:

Student (RollNo, Name, DegreeID, BatchID, ...); **Attendance** (RollNo, CourseCode, Semester, AttFlag, ...);

Block Size = 8 KB; **Available Memory** = 50 Blocks;

Table Name	Row Count	Row Width (in bytes)
Student →	128,000	128
Attendance →	1,280,000	128

Assume average attendance table rows retrieved per student table qualifying row = 10;

Assume there is a clustered index on RollNo column of Attendance table.

Query: *SELECT * FROM student JOIN attendance ON student.rollno=attendance.rollno;*

Calculate the total I/O cost for the above Query using the following joining techniques. Show all steps. Answer the best joining technique for this query.

1) Nested Loop Join
2) Hash Join
3) Sort Merge Join