**National University of Computer & Emerging Sciences, Karachi  
Fall-2023 School of Computing (BSCS, BSSE, BSCY, BSAI)  
Assignment #** Fast**02**

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| **Subject: Database Systems -CS2005 Post Date: 06/10/2023**  **Total Marks: 30 Due Date:**  12/10/2023 |
| **Course Instructors: Dr. Zulfiqar Memon, Dr. Anam Qureshi, Ms. Romasha Khurshid, Mr. Shahroz Bakht, Ms. Fizza Aqeel, Ms. Fizza Mansoor, Mr. Omar Qureshi, Ms. Abeer Gauhar, Mr. Muhammad Ali Fatimi** |

**Instructions to be strictly followed.**



* For all questions involving SQL Queries:
  + ***Submit the SQL Scripts in a .txt file.***
* It should be obvious that submitting your work after the due date will result in zero points being awarded.
* Plagiarism (copying/cheating) and late submissions result in a zero mark.

**Question #01: Marks /15**

**Using the Sailors-Boats-Reserves relational database schema shown below, specify the following queries using the relational operators discussed in the class.**

**Sailors (sid, sname, rating, age)**

**Boats (bid, bname, color)**

**Reserves (sid, bid, date)**

**Write each of the following queries in RA.**

**1. Find the colors of boats reserved by Albert.**

**2. Find all sailor id’s of sailors who have a rating of at least 8 or reserved boat 103.**

**3. Find the names of sailors who have not reserved a red boat.**

**4. Find the sailor id’s of sailors with age over 20 who have not reserved a red boat.**

**5. Find the names of sailors who have reserved at least two boats.**

**6. Find the names of sailors who have reserved all boats.**

**7. Find the names of sailors who have reserved all boats called BigBoat.**

**8. Find the sailor id’s of sailors whose rating is better than some sailor called Bob.**

**9. Find the sailor id’s of sailors whose rating is better than every sailor called Bob.**

**10. Find the sailor id’s of sailors with the highest rating.**

**Question #02: Marks /15**

**Consider a database with the following schema:**

**Person (name, age, gender)**

**Frequents (name, pizzeria)**

**Eats (name, pizza)**

**Serves (pizzeria, pizza, price)**

**Describe the relations that would be produced by the following relational algebra operations (Textual meaning required) and also write SQL Query of each statements:**

1. 
2. 
3. 

