use employee

db.employee.insertMany([

{ EID: 1, ENAME: "Nick", GENDER: "Male", JOININGDATE: "01-JAN-13", SALARY: 4000, CITY: "London" },

{ EID: 2, ENAME: "Julian", GENDER: "Female", JOININGDATE: "01-OCT-14", SALARY: 3000, CITY: "New York" },

{ EID: 3, ENAME: "Roy", GENDER: "Male", JOININGDATE: "01-JUN-16", SALARY: 3500, CITY: "London" },

{ EID: 4, ENAME: "Tom", GENDER: "Male", JOININGDATE: null, SALARY: 4500, CITY: "London" },

{ EID: 5, ENAME: "Jerry", GENDER: "Male", JOININGDATE: "01-FEB-13", SALARY: 2800, CITY: "Sydney" },

{ EID: 6, ENAME: "Philip", GENDER: "Male", JOININGDATE: "01-JAN-15", SALARY: 7000, CITY: "New York" },

{ EID: 7, ENAME: "Sara", GENDER: "Female", JOININGDATE: "01-AUG-17", SALARY: 4800, CITY: "Sydney" },

{ EID: 8, ENAME: "Emily", GENDER: "Female", JOININGDATE: "01-JAN-15", SALARY: 5500, CITY: "New York" },

{ EID: 9, ENAME: "Michael", GENDER: "Male", JOININGDATE: null, SALARY: 6500, CITY: "London" },

{ EID: 10, ENAME: "John", GENDER: "Male", JOININGDATE: "01-JAN-15", SALARY: 8800, CITY: "London" }

]);

--------------------------------------------------------PART - A--------------------------------------------------------

1. Find employees whose name start with E.

db.employee.find({ENAME:/^E/})

2. Find employees whose name ends with n.

db.employee.find({ENAME:/n$/})

3. Find employees whose name starts with S or M in your collection.

db.employee.find({ENAME:/^[SM]/})

4. Find employees where city starts with A to M in your collection.

db.employee.find({CITY:/^[A-M]/})

5. Find employees where city name ends in ‘ney’.

db.employee.find({CITY:/ney$/})

6. Display employee info whose name contains n. (Both uppercase(N) and lowercase(n))

db.employee.find({CITY:/[n]/i})

7. Display employee info whose name starts with E and having 5 characters.

db.employee.find({ENAME:/^E.{4}$/})

8. Display employee whose name start with S and ends in a.

db.employee.find({ENAME:/^S.\*a$/})

9. Display EID, ENAME, CITY and SALARY whose name starts with ‘Phi’.

db.employee.find({ENAME:/^Phi/},{EID:1,ENAME:1,CITY:1,SALARY:1})

10. Display ENAME, JOININGDATE and CITY whose city contains ‘dne’ as three letters in city name.

db.employee.find({CITY:/dne/},{ENAME:1,JOININGDATE:1,CITY:1})

11. Display ENAME, JOININGDATE and CITY who does not belongs to city London or Sydney.

db.employee.find({$nor:[{CITY:/Sydney/},{CITY:/London/}]},{ENAME:1,JOININGDATE:1,CITY:1})

12. Find employees whose names start with 'J'.

db.employee.find({ENAME:/^J/})

13. Find employees whose names end with 'y'.

db.employee.find({ENAME:/y$/})

14. Find employees whose names contain the letter 'a'.

db.employee.find({ENAME:/[a]/})

15. Find employees whose names contain either 'a' or 'e'.

db.employee.find({$or:[{ENAME:/a/},{ENAME:/e/}]})

16. Find employees whose names start with 'J' and end with 'n'.

db.employee.find({ENAME:/^J.\*n$/})

17. Find employees whose CITY starts with 'New'.

db.employee.find({CITY:/^New/})

18. Find employees whose CITY does not start with 'L'

db.employee.find({$nor:[{CITY:/^L/}]})

19. Find employees whose CITY contains the word 'York'.

db.employee.find({CITY:/York/})

20. Find employees whose names have two consecutive vowels (a, e, i, o, u).

db.employee.find({ENAME:/[aeiou]{2}/})

21. Find employees whose names have three or more letters.

db.employee.find({ENAME:/^.{3,}$/})

22. Find employees whose names have exactly 4 letters.

db.employee.find({ENAME:/^.{4}$/})

23. Find employees whose names start with either 'S' or 'M'.

db.employee.find({$or:[{ENAME:/^S/},{ENAME:/^M/}]})

24. Find employees whose names contain 'il' anywhere.

db.employee.find({ENAME:/il/})

25. Find employees whose names do not contain 'a'.

db.employee.find({ENAME:/il/})

26. Find employees whose names contain any digit.

db.employee.find({ENAME:/\d/})

27. Find employees whose names contain exactly one vowel.

db.employee.find({ENAME:/^[^aeiou]\*[aeiou][^aeiou]\*$/i})

^[^aeiou]\* - Matches any number of non-vowel characters at the beginning.

[aeiou] - Ensures there is exactly one vowel in the string.

[^aeiou]\*$ - Matches any number of non-vowel characters after the vowel.

28. Find employees whose names start with any uppercase letter followed by any lowercase letter.

db.employee.find({ENAME:/^[A-Z][a-z]/})

--------------------------------------------------------PART - B-------------------------------------------------------

db.students.insertMany([

{ ROLLNO: 101, SNAME: "Vina", DEPARTMENT: "CE", FEES: 15000, SEM: 3, GENDER: "Female", CITY: "Rajkot" },

{ ROLLNO: 102, SNAME: "Krisha", DEPARTMENT: "EC", FEES: 8000, SEM: 5, GENDER: "Female", CITY: "Ahmedabad" },

{ ROLLNO: 103, SNAME: "Priti", DEPARTMENT: "Civil", FEES: 12000, SEM: 7, GENDER: "Female", CITY: "Baroda" },

{ ROLLNO: 104, SNAME: "Mitul", DEPARTMENT: "CE", FEES: 15000, SEM: 3, GENDER: "Male", CITY: "Rajkot" },

{ ROLLNO: 105, SNAME: "Keshav", DEPARTMENT: "CE", FEES: 15000, SEM: 3, GENDER: "Male", CITY: "Jamnagar" },

{ ROLLNO: 106, SNAME: "Zarna", DEPARTMENT: "Civil", FEES: 12000, SEM: 5, GENDER: "Female", CITY: "Ahmedabad" },

{ ROLLNO: 107, SNAME: "Nima", DEPARTMENT: "EE", FEES: 9000, SEM: 5, GENDER: "Female", CITY: "Rajkot" },

{ ROLLNO: 108, SNAME: "Dhruv", DEPARTMENT: "Mechanical", FEES: 10000, SEM: 5, GENDER: "Male", CITY: "Rajkot" },

{ ROLLNO: 109, SNAME: "Krish", DEPARTMENT: "Mechanical", FEES: 10000, SEM: 7, GENDER: "Male", CITY: "Baroda" },

{ ROLLNO: 110, SNAME: "Zeel", DEPARTMENT: "EE", FEES: 9000, SEM: 3, GENDER: "Female", CITY: "Jamnagar" }

])

1. Display documents where sname start with K.

db.students.find({SNAME:/^K/})

2. Display documents where sname starts with Z or D.

db.students.find({$or:[{SNAME:/^Z/},{SNAME:/^D/}]})

3. Display documents where city starts with A to R.

db.students.find({$or:[{CITY:/^A/},{CITY:/^R/}]})

4. Display students’ info whose name start with P and ends with i.

db.students.find({SNAME:/^P.\*i$/})

5. Display students’ info whose department name starts with ‘C’.

db.students.find({DEPARTMENT:/^C/})

6. Display name, sem, fees, and department whose city contains ‘med’ as three letters somewhere in city name.

db.students.find({CITY:/med/},{SNAME:1,SEM:1,FEES:1,DEPARTMENT:1})

7. Display name, sem, fees, and department who does not belongs to city Rajkot or Baroda.

db.students.find({$nor:[{CITY:/Rajkot/},{CITY:/Baroda/}]},{SNAME:1,SEM:1,FEES:1,DEPARTMENT:1})

8. Find students whose names start with 'K' and are followed by any character.

db.students.find({SNAME:/^K.\*/})

9. Find students whose names end with 'a'.

db.students.find({SNAME:/a$/})

10. Find students whose names contain 'ri'. (case-insensitive)

db.students.find({SNAME:/ri/i})

--------------------------------------------------------PART - C-------------------------------------------------------

1. Find students whose names start with a vowel (A, E, I, O, U).

db.students.find({SNAME:/^[aeiou]/})

2. Find students whose CITY ends with 'pur' or 'bad'.

db.students.find({$or:[{CITY:/pur$/},{CITY:/bad$/}]})

3. Find students whose FEES starts with '1'.

db.students.find({FEES:/^1/})

4. Find students whose SNAME starts with 'K' or 'V'.

db.students.find({$or:[{SNAME:/^K/},{SNAME:/^V/}]})

5. Find students whose CITY contains exactly five characters.

db.students.find({CITY:/^.{5}$/})

6. Find students whose names do not contain the letter 'e'.

db.students.find({$nor:[{SNAME:/e/}]})

7. Find students whose CITY starts with 'Ra' and ends with 'ot'.

db.students.find({CITY:/^Ra.\*ot$/})

8. Find students whose names contain exactly one vowel.

db.students.find({SNAME:/^[^aeiou]\*[aeiou][^aeiou]\*$/})

9. Find students whose names start and end with the same letter.

db.students.find({SNAME:/^(.).\*\1$/i})

^(.).\* - Captures the first letter of the name.

\1$ - Ensures the last letter matches the first captured letter.

/i - Makes it case-insensitive (matches uppercase and lowercase letters).

10. Find students whose DEPARTMENT starts with either 'C' or 'E'.

db.students.find({$or:[{DEPARTMENT:/^C/},{DEPARTMENT:/^E/}]})

11. Find students whose SNAME has exactly 5 characters.

db.students.find({SNAME:/^.{5}$/})

12. Find students whose GENDER is Female and CITY starts with 'A'.

db.students.find({$and:[{GENDER:/Female/},{CITY:/^A/}]})