**MongoDB -**

**QUERY** - Create a student collection with all student details.

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683e8"),

"name" : "Caroline",

"age" : "13",

"class" : 10,

"batch" : "B1",

"favSubjects" : [

"Maths",

"Science"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683e9"),

"name" : "Klaus",

"age" : "13",

"class" : 9,

"batch" : "B2",

"favSubjects" : [

"English",

"Science",

"Maths",

"Social"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683ea"),

"name" : "Hayley",

"age" : "14",

"class" : 10,

"batch" : "B2",

"favSubjects" : [

"English"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683eb"),

"name" : "Marcel",

"age" : "15",

"class" : 10,

"batch" : "B3",

"favSubjects" : [

"Maths",

"Science"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683ec"),

"name" : "Steeve",

"age" : "15",

"class" : 10,

"batch" : "B1",

"favSubjects" : [

"English",

"Sanskrit"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683ed"),

"name" : "Dalia",

"age" : "15",

"class" : 7,

"batch" : "B4",

"favSubjects" : [

"Maths",

"Hindi"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683ee"),

"name" : "Karen",

"age" : "12",

"class" : 8,

"batch" : "B3",

"favSubjects" : [

"Zoology",

"Botony"

]

}

{

"\_id" : ObjectId("6068a13c166d2c3fa4a683ef"),

"name" : "Kath",

"age" : "12",

"class" : 9,

"batch" : "B5",

"favSubjects" : [

"Biology",

"English"

]

}

**QUERY** - Create a batch collection with multiple batches and its corresponding details.

{

"\_id" : ObjectId("606967f3dc27092058cfd0af"),

"batch" : "B1",

"students" : [

{

"name" : "Caroline",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

},

{

"name" : "Steeve",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b0"),

"batch" : "B2",

"students" : [

{

"name" : "Klaus",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

},

{

"name" : "Hayley",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : false

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b1"),

"batch" : "B3",

"students" : [

{

"name" : "Marcel",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

},

{

"name" : "Karen",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : false

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b2"),

"batch" : "B4",

"students" : [

{

"name" : "Dalia",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : false

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b3"),

"batch" : "B5",

"students" : [

{

"name" : "Kath",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

}

]

}

**QUERY -** Write a query to Mark attendance for the students at respective batch on Jan 23 2020

> db.batch.update({batch:"B1"}, {$push : {"students.0.attendance":{"date":"2020 Jan 23", "isPresent":"true"}}});

> db.batch.update({batch:"B2"}, {$push : {"students.0.attendance":{"date":"2020 Jan 23", "isPresent":"true"}}});

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.batch.update({batch:"B3"}, {$push : {"students.0.attendance":{"date":"2020 Jan 23", "isPresent":"true"}}});

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.batch.update({batch:"B4"}, {$push : {"students.0.attendance":{"date":"2020 Jan 23", "isPresent":"true"}}});

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

> db.batch.update({batch:"B5"}, {$push : {"students.0.attendance":{"date":"2020 Jan 23", "isPresent":"true"}}});

WriteResult({ "nMatched" : 1, "nUpserted" : 0, "nModified" : 1 })

O/P -

{

"\_id" : ObjectId("606967f3dc27092058cfd0af"),

"batch" : "B1",

"students" : [

{

"name" : "Caroline",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

},

{

"name" : "Steeve",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b0"),

"batch" : "B2",

"students" : [

{

"name" : "Klaus",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

},

{

"name" : "Hayley",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : false

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b1"),

"batch" : "B3",

"students" : [

{

"name" : "Marcel",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

},

{

"name" : "Karen",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : false

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b2"),

"batch" : "B4",

"students" : [

{

"name" : "Dalia",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : false

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : false

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

}

]

}

{

"\_id" : ObjectId("606967f3dc27092058cfd0b3"),

"batch" : "B5",

"students" : [

{

"name" : "Kath",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

}

]

}

**QUERY -** Write a query to display the students attending batch1 along with their attendance history

> db.batch.find({batch: "B1"}).pretty();

{

"\_id" : ObjectId("606967f3dc27092058cfd0af"),

"batch" : "B1",

"students" : [

{

"name" : "Caroline",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : true

},

{

"date" : "2020 Jan 22",

"isPresent" : true

},

{

"date" : "2020 Jan 23",

"isPresent" : "true"

}

]

},

{

"name" : "Steeve",

"attendance" : [

{

"date" : "2020 Jan 20",

"isPresent" : true

},

{

"date" : "2020 Jan 21",

"isPresent" : false

},

{

"date" : "2020 Jan 22",

"isPresent" : true

}

]

}

]

}

**SQL -** WORKBENCH

Create a schema to represent A Student with all the student details and a Batches with all the batch details with students attending the batches.

CODE -

SET @OLD\_UNIQUE\_CHECKS=@@UNIQUE\_CHECKS, UNIQUE\_CHECKS=0;

SET @OLD\_FOREIGN\_KEY\_CHECKS=@@FOREIGN\_KEY\_CHECKS, FOREIGN\_KEY\_CHECKS=0;

SET @OLD\_SQL\_MODE=@@SQL\_MODE, SQL\_MODE='ONLY\_FULL\_GROUP\_BY,STRICT\_TRANS\_TABLES,NO\_ZERO\_IN\_DATE,NO\_ZERO\_DATE,ERROR\_FOR\_DIVISION\_BY\_ZERO,NO\_ENGINE\_SUBSTITUTION';

-- -----------------------------------------------------

-- Schema StudentDB

-- -----------------------------------------------------

-- -----------------------------------------------------

-- Schema StudentDB

-- -----------------------------------------------------

CREATE SCHEMA IF NOT EXISTS `StudentDB` DEFAULT CHARACTER SET utf8 ;

USE `StudentDB` ;

-- -----------------------------------------------------

-- Table `StudentDB`.`Students`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `StudentDB`.`Students` (

`id` INT NOT NULL,

`name` VARCHAR(30) NOT NULL,

`age` INT NOT NULL,

PRIMARY KEY (`id`))

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `StudentDB`.`Batch`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `StudentDB`.`Batch` (

`batch\_name` VARCHAR(30) NOT NULL,

`student\_id` INT NOT NULL,

INDEX `student\_id\_idx` (`student\_id` ASC) VISIBLE,

CONSTRAINT `batch\_name`

FOREIGN KEY (`student\_id`)

REFERENCES `StudentDB`.`Students` (`id`)

ON DELETE CASCADE

ON UPDATE CASCADE)

ENGINE = InnoDB;

-- -----------------------------------------------------

-- Table `StudentDB`.`attendance`

-- -----------------------------------------------------

CREATE TABLE IF NOT EXISTS `StudentDB`.`attendance` (

`b\_name` VARCHAR(30) NOT NULL,

`givedate` VARCHAR(30) NOT NULL,

`is\_present` TINYINT NOT NULL,

`s\_id` INT NOT NULL,

INDEX `student\_id\_idx` (`s\_id` ASC) VISIBLE,

CONSTRAINT `student\_id`

FOREIGN KEY (`s\_id`)

REFERENCES `StudentDB`.`Students` (`id`)

ON DELETE CASCADE

ON UPDATE CASCADE)

ENGINE = InnoDB;

SET SQL\_MODE=@OLD\_SQL\_MODE;

SET FOREIGN\_KEY\_CHECKS=@OLD\_FOREIGN\_KEY\_CHECKS;

SET UNIQUE\_CHECKS=@OLD\_UNIQUE\_CHECKS;

-- -----------------------------------------------------

-- Data for table `StudentDB`.`Students`

-- -----------------------------------------------------

START TRANSACTION;

USE `StudentDB`;

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (1, 'Caroline', 13);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (2, 'Klaus', 13);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (3, 'Hayley', 14);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (4, 'Marcel', 15);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (5, 'Steeve', 15);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (6, 'Dalia', 15);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (7, 'Karen', 12);

INSERT INTO `StudentDB`.`Students` (`id`, `name`, `age`) VALUES (8, 'Kath', 12);

COMMIT;

-- -----------------------------------------------------

-- Data for table `StudentDB`.`Batch`

-- -----------------------------------------------------

START TRANSACTION;

USE `StudentDB`;

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B1', 1);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B2', 2);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B2', 3);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B3', 4);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B1', 5);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B4', 6);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B3', 7);

INSERT INTO `StudentDB`.`Batch` (`batch\_name`, `student\_id`) VALUES ('B5', 8);

COMMIT;

-- -----------------------------------------------------

-- Data for table `StudentDB`.`attendance`

-- -----------------------------------------------------

START TRANSACTION;

USE `StudentDB`;

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan1', true, 1);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan2', true, 1);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan3', true, 1);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan1', true, 5);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan2', false, 5);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B1', 'Jan3', true, 5);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan1', false, 2);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan2', true, 2);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan3', true, 2);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan1', true, 3);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan2', false, 3);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B2', 'Jan3', false, 3);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan1', true, 4);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan2', true, 4);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan3', true, 4);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan1', false, 7);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan2', true, 7);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B3', 'Jan3', false, 7);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B4', 'Jan1', false, 6);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B4', 'Jan2', false, 6);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B4', 'Jan3', false, 6);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B5', 'Jan1', true, 8);

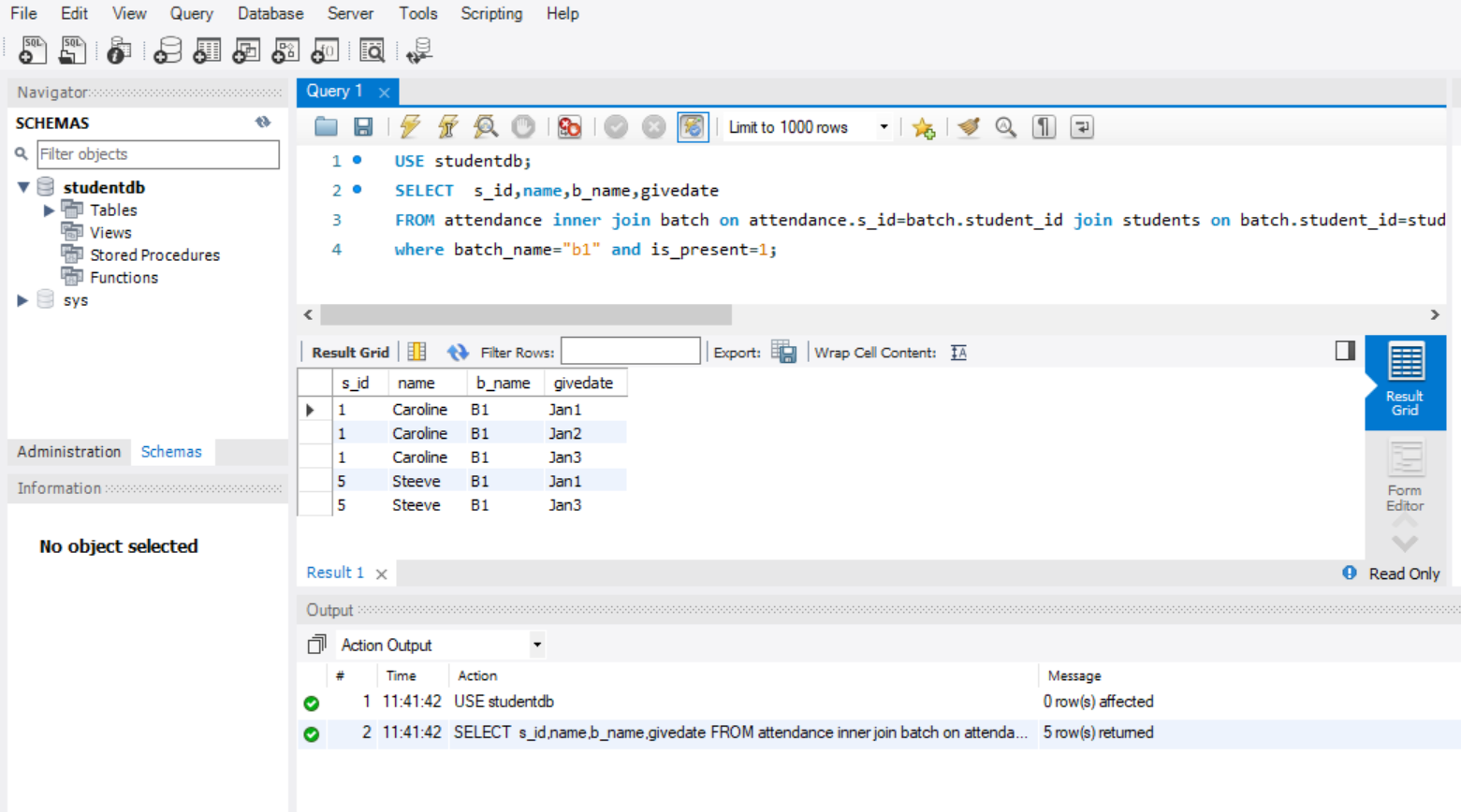
INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B5', 'Jan2', true, 8);

INSERT INTO `StudentDB`.`attendance` (`b\_name`, `givedate`, `is\_present`, `s\_id`) VALUES ('B5', 'Jan3', true, 8);

COMMIT;

QUERY 1 - Write a sql query to display a table containing students attending batch1 along with their attendance history.

CODE -



QUERY 2 - Write a sql query to display a table containing batch details and attendance history of student 1.

CODE -

