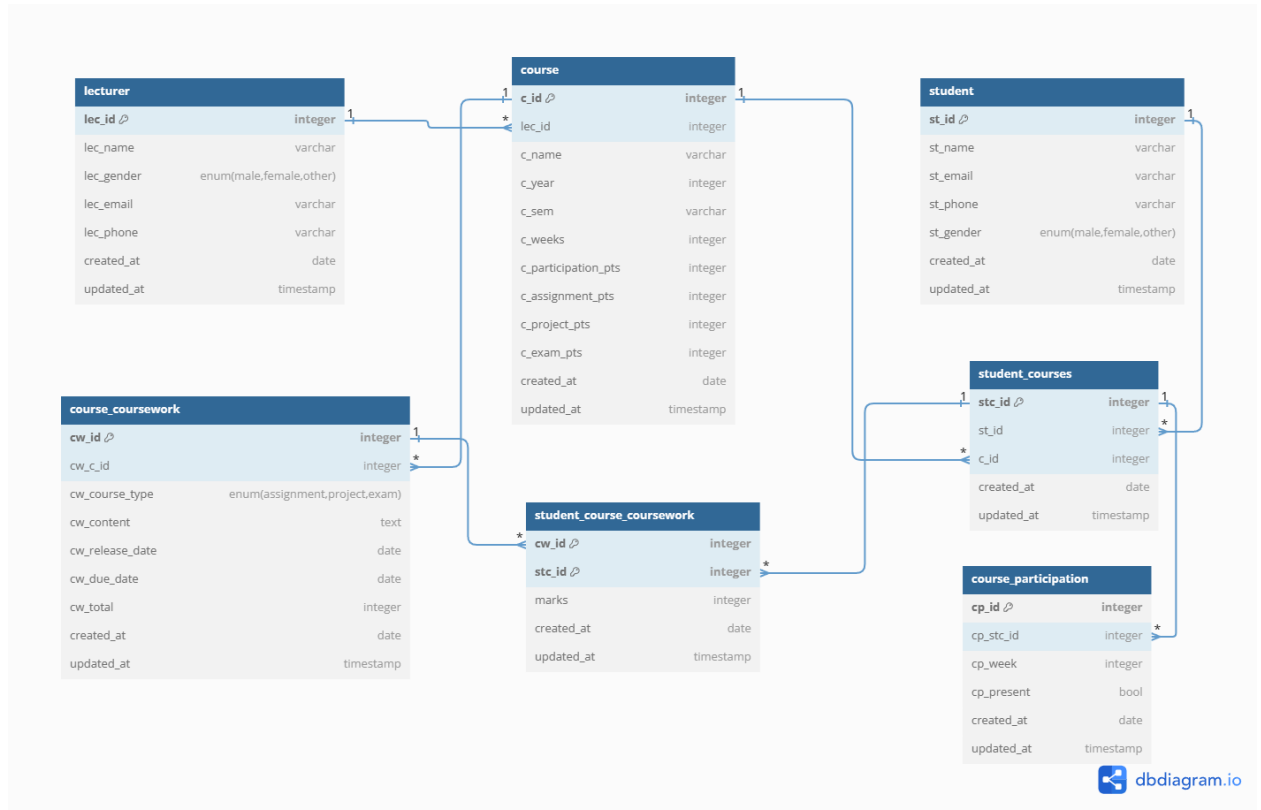


Report for Database Project
Morgan K. Thornton (Student ID: @03004063)
Jawad Adall (Student ID: @02791959)
CSCI 432-01 Database Systems

1. The ER diagram (with the attributes and foreign keys/primary keys indicated);



2. Write the commands for creating tables and inserting values;

```
SET SQL_MODE = "NO_AUTO_VALUE_ON_ZERO";
START TRANSACTION;
SET time_zone = "+00:00";
```

```
/*!40101 SET @OLD_CHARACTER_SET_CLIENT=@@CHARACTER_SET_CLIENT */;
/*!40101 SET @OLD_CHARACTER_SET_RESULTS=@@CHARACTER_SET_RESULTS */;
/*!40101 SET @OLD_COLLATION_CONNECTION=@@COLLATION_CONNECTION */;
/*!40101 SET NAMES utf8mb4 */;
```

```
CREATE DATABASE IF NOT EXISTS `grade_book` DEFAULT CHARACTER SET utf8mb4 COLLATE
utf8mb4_general_ci;
USE `grade_book`;
```

```
DROP TABLE IF EXISTS `course`;
CREATE TABLE `course` (
```

```

`c_id` int(11) NOT NULL,
`lec_id` int(11) DEFAULT NULL,
`c_name` varchar(255) DEFAULT NULL,
`c_year` int(11) DEFAULT NULL,
`c_sem` varchar(255) DEFAULT NULL,
`c_weeks` int(11) DEFAULT NULL,
`c_participation_pts` int(11) DEFAULT NULL COMMENT 'Percentage of grade for participation',
`c_assignment_pts` int(11) DEFAULT NULL COMMENT 'Percentage of grade for assignments',
`c_project_pts` int(11) DEFAULT NULL COMMENT 'Percentage of grade for projects',
`c_exam_pts` int(11) DEFAULT NULL COMMENT 'Percentage of grade for exams',
`created_at` date DEFAULT NULL,
`updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
DROP TRIGGER IF EXISTS `total_check_before_insert`;
DELIMITER $$
CREATE TRIGGER `total_check_before_insert` BEFORE INSERT ON `course` FOR EACH ROW
BEGIN
DECLARE total_marks integer;
DECLARE participation integer;
DECLARE assignment integer;
DECLARE project integer;
DECLARE exam integer;

SET participation = NEW.c_participation_pts;
SET assignment = NEW.c_assignment_pts;
SET project = NEW.c_project_pts;
SET exam = NEW.c_exam_pts;

SET total_marks = participation + assignment + project + exam;

IF total_marks < 100 THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'All categories need to add upto exactly 100', MYSQL_ERRNO =
1001;
ELSEIF total_marks > 100 THEN
    SIGNAL SQLSTATE '45000'
    SET MESSAGE_TEXT = 'All categories need to add upto exactly 100', MYSQL_ERRNO =
1001;
END IF;
END
$$
DELIMITER ;

```

```

DROP TABLE IF EXISTS `course_coursework`;
CREATE TABLE `course_coursework` (
  `cw_id` int(11) NOT NULL,
  `cw_c_id` int(11) DEFAULT NULL,
  `cw_course_type` enum('assignment','project','exam') DEFAULT NULL COMMENT 'Allowed
types: project, assignment, exam',
  `cw_content` text DEFAULT NULL COMMENT 'course work content',
  `cw_release_date` date DEFAULT NULL,
  `cw_due_date` date DEFAULT NULL,
  `cw_total` int(11) DEFAULT 100,
  `created_at` date DEFAULT NULL,
  `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

```

```

DROP TABLE IF EXISTS `course_participation`;
CREATE TABLE `course_participation` (
  `cp_id` int(11) NOT NULL,
  `cp_stc_id` int(11) DEFAULT NULL,
  `cp_week` int(11) DEFAULT NULL,
  `cp_present` tinyint(1) DEFAULT NULL,
  `created_at` date DEFAULT NULL,
  `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
DROP TRIGGER IF EXISTS `ensure_participation_not_exceeded`;
DELIMITER $$
CREATE TRIGGER `ensure_participation_not_exceeded` BEFORE INSERT ON
`course_participation` FOR EACH ROW BEGIN
DECLARE total_participation integer;
DECLARE total_weeks integer;

```

```

SET total_weeks = (SELECT course.c_weeks FROM student_courses
                  JOIN course ON student_courses.c_id = course.c_id WHERE
student_courses.stc_id = NEW.cp_stc_id);

```

```

SET total_participation = (SELECT COUNT(cp_id) FROM course_participation WHERE cp_stc_id =
NEW.cp_stc_id);

```

```

IF total_participation >= total_weeks THEN
  SIGNAL SQLSTATE '45000'
  SET MESSAGE_TEXT = 'You have reached the maximum number of attendances for this
course';
END IF;

```

END

\$\$

DELIMITER ;

DROP TABLE IF EXISTS `lecturer`;

CREATE TABLE `lecturer` (

 `lec_id` int(11) NOT NULL,

 `lec_name` varchar(255) DEFAULT NULL,

 `lec_gender` enum('male','female','other') DEFAULT NULL,

 `lec_email` varchar(255) DEFAULT NULL,

 `lec_phone` varchar(255) DEFAULT NULL,

 `created_at` date DEFAULT NULL,

 `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

DROP TABLE IF EXISTS `student`;

CREATE TABLE `student` (

 `st_id` int(11) NOT NULL,

 `st_name` varchar(255) DEFAULT NULL,

 `st_email` varchar(255) DEFAULT NULL,

 `st_phone` varchar(255) DEFAULT NULL,

 `st_gender` enum('male','female','other') DEFAULT NULL,

 `created_at` date DEFAULT NULL,

 `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

DROP TABLE IF EXISTS `student_courses`;

CREATE TABLE `student_courses` (

 `stc_id` int(11) NOT NULL,

 `st_id` int(11) DEFAULT NULL,

 `c_id` int(11) DEFAULT NULL,

 `created_at` date DEFAULT NULL,

 `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE
current_timestamp()

) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;

DROP TRIGGER IF EXISTS `ensure_no_duplicate_student_course`;

DELIMITER \$\$

CREATE TRIGGER `ensure_no_duplicate_student_course` BEFORE INSERT ON `student_courses`
FOR EACH ROW BEGIN

 DECLARE course_count integer;

```
SET course_count = (SELECT COUNT(stc_id) FROM student_courses WHERE st_id = NEW.st_id  
AND c_id = NEW.c_id);
```

```
IF course_count > 0 THEN  
    SIGNAL SQLSTATE '45000'  
    SET MESSAGE_TEXT = 'A student can enroll to a course once';  
END IF;
```

```
END  
$$  
DELIMITER ;
```

```
DROP TABLE IF EXISTS `student_course_coursework`;  
CREATE TABLE `student_course_coursework` (  
    `cw_id` int(11) NOT NULL,  
    `stc_id` int(11) NOT NULL,  
    `marks` int(11) DEFAULT NULL,  
    `created_at` date DEFAULT NULL,  
    `updated_at` timestamp NOT NULL DEFAULT current_timestamp() ON UPDATE  
current_timestamp()  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4 COLLATE=utf8mb4_general_ci;
```

```
ALTER TABLE `course`  
    ADD PRIMARY KEY (`c_id`),  
    ADD KEY `lec_id` (`lec_id`);
```

```
ALTER TABLE `course_coursework`  
    ADD PRIMARY KEY (`cw_id`),  
    ADD KEY `cw_c_id` (`cw_c_id`);
```

```
ALTER TABLE `course_participation`  
    ADD PRIMARY KEY (`cp_id`),  
    ADD KEY `cp_stc_id` (`cp_stc_id`);
```

```
ALTER TABLE `lecturer`  
    ADD PRIMARY KEY (`lec_id`);
```

```
ALTER TABLE `student`  
    ADD PRIMARY KEY (`st_id`);
```

```
ALTER TABLE `student_courses`  
    ADD PRIMARY KEY (`stc_id`),  
    ADD KEY `st_id` (`st_id`),
```

```
ADD KEY `c_id` (`c_id`);
```

```
ALTER TABLE `student_course_coursework`  
ADD PRIMARY KEY (`cw_id`,`stc_id`),  
ADD KEY `stc_id` (`stc_id`);
```

```
ALTER TABLE `course`  
MODIFY `c_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `course_coursework`  
MODIFY `cw_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `course_participation`  
MODIFY `cp_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `lecturer`  
MODIFY `lec_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `student`  
MODIFY `st_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `student_courses`  
MODIFY `stc_id` int(11) NOT NULL AUTO_INCREMENT;
```

```
ALTER TABLE `course`  
ADD CONSTRAINT `course_ibfk_1` FOREIGN KEY (`lec_id`) REFERENCES `lecturer` (`lec_id`);
```

```
ALTER TABLE `course_coursework`  
ADD CONSTRAINT `course_coursework_ibfk_1` FOREIGN KEY (`cw_c_id`) REFERENCES `course`  
(`c_id`);
```

```
ALTER TABLE `course_participation`  
ADD CONSTRAINT `course_participation_ibfk_1` FOREIGN KEY (`cp_stc_id`) REFERENCES  
`student_courses` (`stc_id`);
```

```
ALTER TABLE `student_courses`  
ADD CONSTRAINT `student_courses_ibfk_1` FOREIGN KEY (`st_id`) REFERENCES `student`  
(`st_id`),  
ADD CONSTRAINT `student_courses_ibfk_2` FOREIGN KEY (`c_id`) REFERENCES `course`  
(`c_id`);
```

```
ALTER TABLE `student_course_coursework`
```

```

ADD CONSTRAINT `student_course_coursework_ibfk_1` FOREIGN KEY (`cw_id`) REFERENCES
`course_coursework` (`cw_id`),
ADD CONSTRAINT `student_course_coursework_ibfk_2` FOREIGN KEY (`stc_id`) REFERENCES
`student_courses` (`stc_id`);
COMMIT;

```

```

/*!40101 SET CHARACTER_SET_CLIENT=@OLD_CHARACTER_SET_CLIENT */;
/*!40101 SET CHARACTER_SET_RESULTS=@OLD_CHARACTER_SET_RESULTS */;
/*!40101 SET COLLATION_CONNECTION=@OLD_COLLATION_CONNECTION */;

```

3. Show the tables with the contents that you have inserted;

courses

		c_id	lec_id	c_name	c_year	c_sem	c_weeks	c_participation_pts <small>Percentage of grade for participation</small>	c_assignment_pts <small>Percentage of grade for assignments</small>	c_project_pts <small>Percentage of grade for projects</small>	c_exam_pts <small>Percentage of grade for exams</small>	created_at	updated_at
<input type="checkbox"/>	Edit	1	2	ROYL066	4	1	12	10	10	30	50	2001-10-06	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	2	10	OJFX954	4	2	14	10	10	30	50	2014-09-09	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	3	8	IYLC387	3	1	12	10	10	30	50	2001-01-16	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	4	7	UCXO498	2	1	13	10	10	30	50	2009-03-01	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	5	6	JTT351	4	2	9	10	10	30	50	2016-11-01	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	6	3	PPOU749	1	1	10	10	10	30	50	2014-01-14	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	7	2	CXDT055	1	2	12	10	10	30	50	2002-07-26	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	8	2	UGPQ798	1	1	12	10	10	30	50	2009-09-03	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	9	6	BWEP650	1	1	13	10	10	30	50	2012-04-28	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	10	5	RIHD472	4	2	14	10	10	30	50	2005-03-10	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	11	7	JOUD419	3	2	9	10	10	30	50	2008-04-14	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	12	9	QFEL933	4	2	10	10	10	30	50	2010-10-15	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	13	5	PBKW438	1	1	9	10	10	30	50	2005-01-02	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	14	8	INNP644	4	2	11	10	10	30	50	2000-12-27	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	15	4	KKDN358	5	2	12	10	10	30	50	2015-03-01	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	16	5	KDVX790	2	1	12	10	10	30	50	2001-02-22	2024-04-14 21:20:10
<input type="checkbox"/>	Edit	17	7	CBYY721	1	2	8	10	10	30	50	2008-09-05	2024-04-14 21:20:10

Course coursework (assignments, projects and exams)

		cw_id	cw_c_id	cw_course_type <small>Allowed types: project, assignment, exam</small>	cw_content <small>course work content</small>	cw_release_date	cw_due_date	cw_total	created_at	updated_at
<input type="checkbox"/>	Edit	1	9	project	interdum feugiat. Sed nec metus facilisis lorem tr...	2023-07-05	2023-07-31	70	2020-12-20	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	2	4	exam	a mi fringilla mi lacinia mattis. Integer eu lacus...	2023-05-08	2023-05-01	100	2020-08-08	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	3	3	exam	ante. Nunc mauris sapien, cursus in, hendrerit con...	2023-06-17	2023-09-28	50	2021-12-18	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	4	2	assignment	lacus vestibulum lorem, sit amet ultricies sem mag...	2023-08-05	2023-07-07	70	2020-12-23	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	5	2	assignment	Nulla tincidunt, neque vitae semper egestas, urna ...	2023-05-24	2023-08-15	10	2020-11-02	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	6	9	assignment	at lacus. Quisque purus sapien, gravida non, solli...	2023-04-27	2023-05-21	80	2022-01-12	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	7	1	exam	interdum feugiat. Sed nec metus facilisis lorem tr...	2023-06-07	2023-07-14	60	2020-11-08	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	8	6	exam	neque pellentesque massa lobortis ultrices. Vivamu...	2023-05-30	2023-05-26	50	2020-10-14	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	9	6	project	vestibulum lorem, sit amet ultricies sem magna nec...	2023-06-04	2023-05-10	60	2020-11-15	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	10	7	project	tempus scelerisque, lorem ipsum sodales purus, in ...	2023-06-21	2023-09-17	30	2021-12-11	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	11	7	exam	vulputate, risus a ultricies adipiscing, enim mi t...	2023-06-07	2023-05-16	40	2020-11-24	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	12	7	project	eget, volutpat ornare, facilisis eget, ipsum. Done...	2023-06-06	2023-07-16	30	2021-08-09	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	13	4	exam	quam vel sapien imperdiet ornare. In faucibus. Mor...	2023-06-02	2023-09-30	60	2021-08-02	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	14	10	project	erat. Vivamus nisi, Mauris nulla. Integer urna. Vi...	2023-06-10	2023-05-23	10	2020-07-12	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	15	2	project	accumsan laoreet ipsum. Curabitur consequat, lectu...	2023-07-08	2023-09-08	20	2021-08-04	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	16	8	assignment	Duis volutpat nunc sit amet metus. Aliquam erat vo...	2023-08-10	2023-05-22	60	2022-01-09	2024-04-14 21:35:16
<input type="checkbox"/>	Edit	17	2	exam	vitae purus gravida sagittis. Duis gravida. Praese...	2023-05-13	2023-08-15	60	2021-05-24	2024-04-14 21:35:16































Lecturers

<div><div><div></div><div></div><div></div></div></div>			lec_id	lec_name	lec_gender	lec_email	lec_phone	created_at	updated_at
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	1	Berk Patrick	male	tellus.phasellus.elit@google.com	1-792-674-5510	2011-07-14	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	2	Ali Joyner	male	eu.lacus@google.net	(668) 872-1624	2018-09-25	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	3	Gwendolyn Carr	female	semper.et@yahoo.com	1-399-387-4523	2011-01-20	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	4	Kyla Mason	male	sem.mollis@icloud.ca	(591) 822-3450	2014-07-13	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	5	Hamilton Pate	female	vel.nisl.quisque@outlook.ca	1-367-352-0804	2022-11-16	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	6	Kelsie Valentine	female	tortor@yahoo.com	(602) 268-2544	2015-10-09	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	7	Hadley Dodson	female	vel@outlook.org	(862) 787-7245	2017-09-04	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	8	Burke Walls	male	semper.cursus@hotmail.ca	1-457-243-3713	2019-10-29	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	9	Marvin Walter	male	ipsum@icloud.com	1-702-665-8172	2016-08-07	2024-04-14 21:04:36
<div><div><div></div></div><div><div><div></div></div><div><div></div></div><div><div></div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	<div><div><div></div></div><div><div></div></div><div><div></div></div></div>	10	August Snyder	female	vehicula.risus.nulla@google.ca	1-961-272-8326	2016-03-23	2024-04-14 21:04:36




































































Students

<div><div><div></div></div></div>				st_id	st_name	st_email	st_phone	st_gender	created_at	updated_at
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	1	Zoe Fox	accumsan.laoreet.ipsum@hotmail.edu	1-966-612-8431	female	2015-08-06	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	2	Charlotte Fitzgerald	quis@icloud.com	1-545-231-0489	female	2015-06-17	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	3	September Morin	porttitor.scelerisque.neque@hotmail.edu	1-851-258-2705	female	2019-12-07	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	4	Grady Rogers	libero.mauris@yahoo.org	1-783-499-3063	male	2018-05-28	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	5	Adele Dyer	sed.pharetra@icloud.com	1-852-689-8863	female	2012-10-04	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	6	Aline Adams	pede.cras.vulputate@yahoo.edu	1-913-450-2321	female	2018-08-09	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	7	Carlos McClain	ante.nunc.mauris@yahoo.couk	1-776-533-9627	male	2023-03-30	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	8	Kelly Murray	tincidunt.adipiscing@outlook.couk	(812) 934-4269	female	2011-06-12	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	9	Tatiana Morales	tristique.ac@hotmail.org	1-134-557-2677	female	2014-02-19	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	10	Bernard Berg	sagittis.placerat@icloud.net	1-895-296-7674	male	2016-09-07	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	11	Ebony McClure	nisl.nulla@google.net	1-728-676-5378	female	2015-06-03	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	12	Hyatt Lynn	donec.non@protonmail.net	1-662-680-4569	female	2020-01-27	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	13	Faith Davidson	rutrum.urna.nec@hotmail.ca	1-965-138-9881	female	2010-06-15	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	14	Bevis Morse	in.at@yahoo.ca	1-365-185-8521	female	2019-05-07	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	15	Abel Mathis	enim.commodo@aol.org	1-529-100-5015	male	2012-04-28	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	16	Dylan Stevens	tincidunt.vehicula@protonmail.couk	(897) 781-2852	male	2015-01-11	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	17	Sophia Velazquez	orci@google.net	(945) 566-8746	male	2011-07-19	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	18	Guy Malone	ipsum.porta@outlook.edu	1-863-511-1585	female	2012-06-30	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	19	Bryar Preston	a.scelerisque@hotmail.ca	(776) 748-3626	female	2014-02-16	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	20	Hedy Brennan	senectus.et@aol.org	1-154-474-9737	female	2011-07-06	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	21	Cade Morales	gravida.molestie@outlook.couk	1-563-502-7440	male	2020-11-19	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	22	Calvin Carver	etiam.ligula@hotmail.couk	(346) 423-1051	female	2016-08-08	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	23	Asher Gould	aenean.eget.metus@hotmail.com	(865) 771-1808	female	2012-09-02	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	24	Kenyon Steele	tempus@aol.net	1-715-777-4650	male	2017-08-31	2024-04-14 21:09:54
<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	<div><div><div></div></div></div>	25	Deanna Moody	in.condimentum@hotmail.couk	1-980-225-9163	male	2014-05-30	2024-04-14 21:09:54


































Student courses

← T →				stc_id	st_id	c_id	created_at	updated_at
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	9	2	2023-04-17	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	9	6	2023-01-12	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	7	2	2023-04-30	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	2	4	2023-03-27	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	3	5	2023-04-26	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	9	7	2023-01-20	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	8	4	2023-04-01	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	6	6	2023-03-13	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	6	9	2023-01-22	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	5	8	2023-03-11	2024-04-14 22:14:53
<input type="checkbox"/>	 Edit	 Copy	 Delete	11	8	6	2023-03-08	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	9	4	2023-01-28	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	13	1	4	2023-04-05	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	14	1	7	2023-01-26	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	15	10	3	2023-01-06	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	16	9	8	2023-03-07	2024-04-14 22:16:17
<input type="checkbox"/>	 Edit	 Copy	 Delete	17	1	6	2023-01-30	2024-04-14 22:16:17

Student's attempted coursework (student_course_coursework)

				cw_id	stc_id	marks	created_at	updated_at
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	19	46	2023-03-24	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	7	46	2023-04-06	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	11	14	2023-02-17	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	4	36	2023-06-30	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	1	39	2023-05-07	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	3	50	2023-04-11	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	13	38	2023-03-19	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	10	33	2023-07-13	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	11	16	2023-06-25	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	18	19	2023-05-11	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	14	2	36	2023-04-24	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	14	9	22	2023-05-21	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	14	17	44	2023-05-25	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	16	11	43	2023-02-06	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	16	12	28	2023-07-13	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	16	13	38	2023-03-10	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	17	17	43	2023-07-23	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	17	19	26	2023-07-07	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	4	17	2023-03-06	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	6	38	2023-06-13	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	7	48	2023-04-10	2024-04-14 22:38:44
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	11	16	2023-05-05	2024-04-14 22:38:44

Course_participation (attendance history of students)

←T→				cp_id	cp_stc_id	cp_week	cp_present	created_at	updated_at
<input type="checkbox"/>	 Edit	 Copy	 Delete	1	16	3	1	2023-06-15	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	2	13	2	0	2023-08-24	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	3	20	6	0	2023-02-06	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	4	2	5	1	2023-07-14	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	5	9	3	1	2023-02-27	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	6	15	7	0	2023-07-02	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	7	2	5	0	2023-01-31	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	8	2	6	1	2023-06-23	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	9	12	3	1	2023-02-23	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	10	5	5	0	2023-01-28	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	11	13	2	0	2023-05-28	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	12	5	2	0	2023-02-04	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	13	18	7	0	2023-08-11	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	14	16	2	0	2023-06-24	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	15	7	7	1	2023-02-18	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	16	13	6	1	2023-02-18	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	17	12	4	0	2023-07-11	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	14	3	1	2023-08-25	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	19	2	6	1	2023-07-13	2024-04-14 22:34:43
<input type="checkbox"/>	 Edit	 Copy	 Delete	20	8	8	0	2023-05-08	2024-04-14 22:34:43

4. Compute the average/highest/lowest score of an assignment;

Code:

DELIMITER \$\$

CREATE DEFINER=`root`@`localhost` PROCEDURE `calculateMinMaxAve`(IN `assignment_id` INT)

BEGIN

 DECLARE assignment_count integer;

 DECLARE total_assignment integer;

 DECLARE min_assignment integer;

 DECLARE max_assignment integer;

 DECLARE ave_assignment integer;

 SET assignment_count = (SELECT COUNT(marks) FROM student_course_coursework WHERE
cw_id = assignment_id);

 SET total_assignment = (SELECT SUM(marks) FROM student_course_coursework WHERE
cw_id = assignment_id);

```

SET @min_assignment = (SELECT MIN(marks) FROM student_course_coursework WHERE
cw_id = assignment_id);
SET @max_assignment = (SELECT MAX(marks) FROM student_course_coursework WHERE
cw_id = assignment_id);

```

```

SET @ave_assignment = total_assignment/assignment_count;

```

```

SELECT @ave_assignment AS `Average_Assignment_Score`, @min_assignment AS
`Min_Assignment_Score`, @max_assignment AS `Max_Assignment_Score`;
END$$
DELIMITER ;

```

Test:

```

SET @p0='9'; CALL `calculateMinMaxAve`(@p0);

```

Execution results of routine `calculateMinMaxAve`

Average_Assignment_Score	Min_Assignment_Score	Max_Assignment_Score
42.333333333	38	50

5. List all of the students in a given course;

Code:

```

BEGIN

```

```

    SELECT student_courses.st_id AS id, student.st_name AS name, student.st_email AS
email, @student.st_phone AS phone, student.st_gender AS gender FROM student_courses
    INNER JOIN student on student_courses.st_id = student.st_id
    WHERE student_courses.c_id = course_id;
END$$

```

Test:

```
SET @p0='9'; CALL `show_course_students`(@p0);
```

Execution results of routine `show_course_students`

id	name	email	phone	gender
6	Aline Adams	pede.cras.vulputate@yahoo.edu	1-913-450-2321	female
7	Carlos McClain	ante.nunc.mauris@yahoo.couk	1-776-533-9627	male

6. List all of the students in a course and all of their scores on every assignment;

Code:

```
select student.st_name, course.c_name, course_coursework.cw_id,  
course_coursework.cw_course_type, student_course_coursework.marks FROM  
student_course_coursework
```

```
JOIN course_coursework ON student_course_coursework.cw_id =  
course_coursework.cw_id
```

```
JOIN student_courses ON student_course_coursework.stc_id = student_courses.stc_id
```

```
JOIN student ON student_courses.st_id = student.st_id
```

```
JOIN course ON student_courses.c_id = course.c_id
```

```
WHERE course.c_id = 6 GROUP BY student.st_name;
```

Test (course id = 6):

st_name	c_name	cw_id	cw_course_type	marks
Tatiana Morales	PPOU749	14	project	36
Tatiana Morales	PPOU749	39	project	15
Tatiana Morales	PPOU749	43	assignment	19
Aline Adams	PPOU749	22	project	40
Aline Adams	PPOU749	45	project	16
Aline Adams	PPOU749	47	exam	37
Aline Adams	PPOU749	49	assignment	23
Kelly Murray	PPOU749	6	assignment	14
Kelly Murray	PPOU749	12	project	16
Kelly Murray	PPOU749	16	assignment	43
Kelly Murray	PPOU749	18	assignment	9
Kelly Murray	PPOU749	30	project	38
Kelly Murray	PPOU749	40	project	44
Zoe Fox	PPOU749	14	project	44
Zoe Fox	PPOU749	17	exam	43
Zoe Fox	PPOU749	21	exam	48
Zoe Fox	PPOU749	24	exam	16

7. Add an assignment to a course;

Code:

```
INSERT INTO course_coursework
```

```
(cw_id,cw_c_id,cw_course_type,cw_content,cw_release_date,cw_due_date,cw_total,created_at)
```

```
VALUES(NULL, 10, 'assignment',
```

```
'fsdhfhosdfighdfgfvibsidbgibidfbgdibibfaifdbidsbfvsibgidnifdniobnifdbgsdiobgdoibgioboibgdiobgdibfg','2024-04-03','2024-04-10',50,'2024-03-21');
```

Test:

✓ 1 row inserted.
Inserted row id: 101 (Query took 0.0047 seconds.)

```
INSERT INTO course_coursework (cw_id,cw_c_id,cw_course_type,cw_content,cw_release_date,cw_due_date,cw_total,created_at) VALUES(NULL, 10, 'assignment', 'fsdhfhosdfighdfgfvibsidbgibidfbgdibibfaifdbidsbfvsibgidnifdniobnifdbgsdiobgdoibgioboibgdiobgdibfg','2024-04-03','2024-04-10',50,'2024-03-21');
```

[Edit inline] [Edit] [Create PHP code]

	cw_id	cw_c_id	cw_course_type	cw_content	cw_release_date	cw_due_date	cw_total	created_at	updated_at
			Allowed types: project, assignment, exam	course work content					
	101	10	assignment	fsdhfhosdfighdfgfvibsidbgibidfbgdibibfaifdbidsbfv...	2024-04-03	2024-04-10	50	2024-03-21	2024-04-14 23:16:45

8. Change the percentages of the categories for a course;

Code:

```
UPDATE `course` SET
`c_participation_pts`=20,`c_assignment_pts`=20,`c_project_pts`=20,`c_exam_pts`=40 WHERE
`c_id`= 11;
```

Test:

1 row affected. (Query took 0.0022 seconds.)

```
UPDATE `course` SET `c_participation_pts`=20,`c_assignment_pts`=20,`c_project_pts`=20,`c_exam_pts`=40 WHERE `c_id`= 11;
```

[\[Edit inline \]](#) [\[Edit \]](#) [\[Create PHP code \]](#)

<input type="checkbox"/>				10	5	RIHD472	4	2	14	10	10	30	50	2005-03-10	2024-04-14 21:20:10
<input type="checkbox"/>				11	7	JOURD419	3	2	9	20	20	20	40	2008-04-14	2024-04-14 23:20:56
<input type="checkbox"/>				12	9	QFEL933	4	2	10	10	10	30	50	2010-10-15	2024-04-14 21:20:10

9. Add 2 points to the score of each student on an assignment;

Code:

```
BEGIN
```

```
    DECLARE total_score integer;
```

```
    SET total_score = (SELECT cw_total FROM course_coursework WHERE cw_id =
assignment_id);
```

```
    UPDATE student_course_coursework SET marks = (
```

```
        CASE WHEN (marks + points) <= total_score THEN (marks + points)
```

```
        WHEN (marks + points) > total_score THEN (marks + (points - ((points + marks)-
total_score)))
```

```
    END)
```

```
    WHERE cw_id = assignment_id;
```

```
END
```









Test:

<input type="checkbox"/>				18	4	5	2023-03-06	2024-04-14 23:34:55
<input type="checkbox"/>				18	6	12	2023-06-13	2024-04-14 23:34:55
<input type="checkbox"/>				18	7	16	2023-04-10	2024-04-14 23:34:55
<input type="checkbox"/>				18	11	7	2023-05-05	2024-04-14 23:34:55
<input type="checkbox"/>				18	16	16	2023-06-16	2024-04-14 23:34:55

✓ Your SQL query has been executed successfully.
0 rows affected by the last statement inside the procedure.

```
SET @p0='18'; SET @p1='2'; CALL `students_add_points`(@p0, @p1);
```

Execution results of routine `students_add_points`

<input type="checkbox"/>	 Edit	 Copy	 Delete	18	4	7	2023-03-06	2024-04-14 23:37:23
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	6	14	2023-06-13	2024-04-14 23:37:23
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	7	18	2023-04-10	2024-04-14 23:37:23
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	11	9	2023-05-05	2024-04-14 23:37:23
<input type="checkbox"/>	 Edit	 Copy	 Delete	18	16	18	2023-06-16	2024-04-14 23:37:23

10. Add 2 points just to those students whose last name contains a 'Q'.

Code:

```
DELIMITER $$
```

```
CREATE DEFINER=`root`@`localhost` PROCEDURE `students_add_points_q`(IN `assignment_id`  
INT, IN `points` INT)  
BEGIN
```

```
    DECLARE total_score integer;
```

```
    SET total_score = (SELECT cw_total FROM course_coursework WHERE cw_id =  
assignment_id);
```

```
    UPDATE student_course_coursework
```

```
    JOIN student_courses ON student_course_coursework.stc_id = student_courses.stc_id
```

```
    JOIN student ON student_courses.st_id = student.st_id
```

```
    SET student_course_coursework.marks = (
```

```
        CASE WHEN (student_course_coursework.marks + points) <= total_score THEN  
(student_course_coursework.marks + points)
```

```
        WHEN (student_course_coursework.marks + points) > total_score THEN  
(student_course_coursework.marks + (points - ((points + student_course_coursework.marks)-  
total_score)))
```

```
        ELSE (student_course_coursework.marks + points)
```


```
    END)
```

```
    WHERE student_course_coursework.cw_id = assignment_id AND student.st_name LIKE '%q%';
```

```
END$$
```

```
DELIMITER ;
```


Test: (No change expected since no student's name starts with q

<input type="checkbox"/>				18	4	7	2023-03-06	2024-04-14 23:37:23
<input type="checkbox"/>				18	6	14	2023-06-13	2024-04-14 23:37:23
<input type="checkbox"/>				18	7	18	2023-04-10	2024-04-14 23:37:23
<input type="checkbox"/>				18	11	9	2023-05-05	2024-04-14 23:37:23
<input type="checkbox"/>				18	16	18	2023-06-16	2024-04-14 23:37:23

✓ Your SQL query has been executed successfully.
0 rows affected by the last statement inside the procedure.

```
SET @p0='18'; SET @p1='2'; CALL `students_add_points_q`(@p0, @p1);
```

Execution results of routine `students_add_points_q`

<input type="checkbox"/>				18	4	7	2023-03-06	2024-04-14 23:37:23
<input type="checkbox"/>				18	6	14	2023-06-13	2024-04-14 23:37:23
<input type="checkbox"/>				18	7	18	2023-04-10	2024-04-14 23:37:23
<input type="checkbox"/>				18	11	9	2023-05-05	2024-04-14 23:37:23
<input type="checkbox"/>				18	16	18	2023-06-16	2024-04-14 23:37:23

11. Compute the grade for a student;

Code:

```
BEGIN
```

```
DECLARE participation_count integer;  
DECLARE participation_present integer;  
DECLARE participation_g_total integer;  
DECLARE participation_pct integer;  
DECLARE assignment_pct integer;  
DECLARE project_pct integer;  
DECLARE exam_pct integer;
```

```
DECLARE assignment_grade decimal(10,1);  
DECLARE project_grade decimal(10,1);  
DECLARE exam_grade decimal(10,1);  
DECLARE student_grade decimal(10,1);
```

```
SET participation_count = (SELECT c_weeks FROM course WHERE c_id = course_id);  
SET participation_pct = (SELECT c_participation_pts FROM course WHERE c_id = course_id);
```

```

SET assignment_pct = (SELECT c_assignment_pts FROM course WHERE c_id = course_id);
SET project_pct = (SELECT c_project_pts FROM course WHERE c_id = course_id);
SET exam_pct = (SELECT c_exam_pts FROM course WHERE c_id = course_id);

```

```

SET participation_present = (SELECT COUNT(cp_id) FROM course_participation
JOIN student_courses ON course_participation.cp_stc_id = student_courses.stc_id
JOIN student ON student_courses.st_id = student.st_id
JOIN course ON student_courses.c_id = course.c_id
WHERE student.st_id = student_id AND course.c_id = course_id AND cp_present = TRUE);

```

```

SET @participation_g_total =
((participation_present/participation_count)*100)*(participation_pct/100);

```

```

SET @assignment_grade = (calculate_category_grade(student_id, course_id, 'assignment',
assignment_pct));
SET @project_grade = (calculate_category_grade(student_id, course_id, 'project', project_pct));
SET @exam_grade = (calculate_category_grade(student_id, course_id, 'exam', exam_pct));

```

```

SET @student_grade = (@participation_g_total + @assignment_grade + @project_grade +
@exam_grade);

```

```

SELECT @participation_g_total AS Participation, @assignment_grade AS Assignments,
@project_grade AS Projects, @exam_grade AS Exams, @student_grade AS Student_Grade;
END

```

Calculate_category_grade function:

```

BEGIN
    DECLARE done integer DEFAULT FALSE;
    DECLARE cw_total integer;
    DECLARE cw_id integer;
    DECLARE cw_marks integer;
    DECLARE cw_grade decimal(10,1);
    DECLARE cur1 CURSOR FOR SELECT cw_id, cw_total FROM course_coursework WHERE
cw_c_id = course_id AND cw_course_type = type;
    DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

    SET @cw_grade = 0.00;
    OPEN cur1;

    cw_loop: LOOP
        FETCH cur1 INTO cw_id, cw_total;
        IF done THEN
            LEAVE cw_loop;
        END IF;

```

```

        SET cw_marks = ( SELECT marks FROM student_course_coursework
                        JOIN student_courses ON student_course_coursework.stc_id =
student_courses.stc_id
                        JOIN student ON student_courses.st_id = student.st_id
                        WHERE student_course_coursework.cw_id = cw_id AND student.st_id =
student_id);
        IF cw_marks IS NOT NULL THEN
            SET @cw_grade = cw_grade + (((cw_marks/cw_total)*100)*(grade_pct/100));
            END IF;
        END LOOP;

    CLOSE cur1;
    RETURN @cw_grade;
END

```

Test:

```
SET @p0='9'; SET @p1='6'; CALL `students_calculate_grade`(@p0, @p1);
```

Execution results of routine `students_calculate_grade`

Participation	Assignments	Projects	Exams	Student_Grade
7	0.0	0.0	0.0	7.0

(student id: 9 and course id: 6)

12. Compute the grade for a student, where the lowest score for a given category is dropped

Code:

```

DELIMITER $$
CREATE DEFINER=`root`@`localhost` PROCEDURE `students_calculate_grade_minus_min`(IN
`student_id` INT, IN `course_id` INT)
BEGIN

```

```

    DECLARE participation_count integer;
    DECLARE participation_present integer;
    DECLARE participation_g_total integer;
    DECLARE participation_pct integer;
    DECLARE assignment_pct integer;
    DECLARE project_pct integer;
    DECLARE exam_pct integer;

    DECLARE assignment_grade decimal(10,1);
    DECLARE project_grade decimal(10,1);

```

```
DECLARE exam_grade decimal(10,1);
DECLARE student_grade decimal(10,1);
```

```
SET participation_count = (SELECT c_weeks FROM course WHERE c_id = course_id);
SET participation_pct = (SELECT c_participation_pts FROM course WHERE c_id = course_id);
SET assignment_pct = (SELECT c_assignment_pts FROM course WHERE c_id = course_id);
SET project_pct = (SELECT c_project_pts FROM course WHERE c_id = course_id);
SET exam_pct = (SELECT c_exam_pts FROM course WHERE c_id = course_id);
```

```
SET participation_present = (SELECT COUNT(cp_id) FROM course_participation
JOIN student_courses ON course_participation.cp_stc_id = student_courses.stc_id
JOIN student ON student_courses.st_id = student.st_id
JOIN course ON student_courses.c_id = course.c_id
WHERE student.st_id = student_id AND course.c_id = course_id AND cp_present = TRUE);
```

```
SET @participation_g_total =
((participation_present/participation_count)*100)*(participation_pct/100);
```

```
SET @assignment_grade = (calculate_category_grade_minus_min(student_id, course_id,
'assignment', assignment_pct));
SET @project_grade = (calculate_category_grade_minus_min(student_id, course_id, 'project',
project_pct));
SET @exam_grade = (calculate_category_grade_minus_min(student_id, course_id, 'exam',
exam_pct));
```

```
SET @student_grade = (@participation_g_total + @assignment_grade + @project_grade +
@exam_grade);
```

```
SELECT @participation_g_total AS Participation, @assignment_grade AS Assignments,
@project_grade AS Projects, @exam_grade AS Exams, @student_grade AS Student_Grade;
END$$
DELIMITER ;
```

calculate_category_grade_minus_min function:

```
DELIMITER $$
CREATE DEFINER=`root`@`localhost` FUNCTION
`calculate_category_grade_minus_min`(`course_id` INT, `type` VARCHAR(50), `student_id` INT,
`grade_pct` INT) RETURNS decimal(10,1)
BEGIN
    DECLARE done integer DEFAULT FALSE;
    DECLARE cw_total integer;
    DECLARE cw_id integer;
    DECLARE cw_marks integer;
```

```

DECLARE cw_grade decimal(10,1);
DECLARE min_score decimal(10,1);
DECLARE grade_score decimal(10,1);
    DECLARE cur1 CURSOR FOR SELECT cw_id, cw_total FROM course_coursework WHERE
cw_c_id = course_id AND cw_course_type = type;
    DECLARE CONTINUE HANDLER FOR NOT FOUND SET done = TRUE;

SET grade_score = 0.0;
SET min_score = 0.0;
OPEN cur1;

    cw_loop: LOOP
    FETCH cur1 INTO cw_id, cw_total;
    IF done THEN
        LEAVE cw_loop;
    END IF;
    SET cw_marks = (SELECT marks FROM student_course_coursework
        JOIN student_courses ON student_course_coursework.stc_id =
student_courses.stc_id
        JOIN student ON student_courses.st_id = student.st_id
        WHERE student_course_coursework.cw_id = cw_id AND student.st_id =
student_id);
    IF cw_marks IS NOT NULL THEN
        SET cw_grade = ((cw_marks/cw_total)*100)*(grade_pct/100);
        IF min_score = 0.0 THEN
            SET min_score = cw_grade;
        SET grade_score = grade_score + cw_grade;
        ELSEIF min_score > cw_grade THEN
            SET min_score = cw_grade;
        END IF;
        SET grade_score = grade_score + cw_grade;
    END IF;
    END LOOP;

CLOSE cur1;
SET grade_score = grade_score - min_score;
RETURN grade_score;
END$$
DELIMITER ;

```

Test:

```
SET @p0='9'; SET @p1='6'; CALL `students_calculate_grade_minus_min`(@p0, @p1);
```

Execution results of routine 'students_calculate_grade_minus_min'

Participation	Assignments	Projects	Exams	Student_Grade
7	0.0	0.0	0.0	7.0