

Person:

```
CREATE TABLE `person` (  
  `first_name` varchar(20) DEFAULT NULL,  
  `last_name` varchar(20) DEFAULT NULL,  
  `email` varchar(50) NOT NULL,  
  `password` varchar(50) NOT NULL,  
  `group_id` varchar(10) DEFAULT NULL,  
  `user_level` int(11) NOT NULL,  
  PRIMARY KEY (`email`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Quiz:

```
CREATE TABLE `quiz` (  
  `quiz_id` varchar(5) NOT NULL,  
  `creator_email` varchar(50) NOT NULL,  
  `quiz_name` varchar(30) NOT NULL,  
  PRIMARY KEY (`quiz_id`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Lab:

```
CREATE TABLE `lab` (  
  `lab_id` varchar(5) NOT NULL,  
  `lab_name` varchar(50) NOT NULL,  
  PRIMARY KEY (`lab_id`),  
  UNIQUE KEY `unique` (`lab_name`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Lab_Student:

```
CREATE TABLE `lab_student` (  
  `lab_id` varchar(5) NOT NULL,  
  `stu_email` varchar(50) NOT NULL,  
  `done` int(11) NOT NULL,  
  `group_id_lab` varchar(10) DEFAULT NULL  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Site group:

```
CREATE TABLE `site_group` (  
  `site_group_id` varchar(10) NOT NULL,  
  `admin_email` varchar(50) NOT NULL,  
  PRIMARY KEY (`site_group_id`)  
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4
```

Questions:

```
CREATE TABLE `question` (  
  `question_id` varchar(20) NOT NULL,
```

```

`quiz_id` varchar(5) NOT NULL,
`question_text` varchar(300) DEFAULT NULL,
`question_answer1` varchar(100) DEFAULT NULL,
`question_answer2` varchar(100) DEFAULT NULL,
`question_answer3` varchar(100) DEFAULT NULL,
`question_answer4` varchar(100) DEFAULT NULL,
`correct_answer` int(10) NOT NULL,
PRIMARY KEY (`question_id`)
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

```

Take_quiz:

```

CREATE TABLE `take_quiz` (
  `quiz_id` varchar(5) NOT NULL,
  `student_email` varchar(50) NOT NULL,
  `grade` int(11) NOT NULL,
  `date` date NOT NULL,
  `max_grade` int(3) NOT NULL
) ENGINE=InnoDB DEFAULT CHARSET=utf8mb4

```

Alter statement:

```

ALTER TABLE person
ADD CONSTRAINT FK_person_group_id
FOREIGN KEY (group_id) REFERENCES site_group(site_group_id);

```

```

ALTER TABLE quiz
ADD CONSTRAINT FK_person_creator_email
FOREIGN KEY (creator_email) REFERENCES person(email);

```

```

ALTER TABLE lab_student
ADD CONSTRAINT FK_lab_id
FOREIGN KEY (lab_id) REFERENCES lab(lab_id);

```

```

ALTER TABLE lab_student
ADD CONSTRAINT FK_stu_email
FOREIGN KEY (group_id_lab) REFERENCES person(email);
ALTER TABLE lab_student
ADD CONSTRAINT FK_site_group_id
FOREIGN KEY (stu_email) REFERENCES site_group(site_group_id);

```

```

ALTER TABLE site_group
ADD CONSTRAINT FK_admin_email_group
FOREIGN KEY (admin_email) REFERENCES person(email);

```

```

ALTER TABLE question

```

```
ADD CONSTRAINT FK_que_quiz_id  
FOREIGN KEY (quiz_id) REFERENCES quiz(quiz_id);
```

```
ALTER TABLE take_quiz  
ADD CONSTRAINT FK_que_tak_quiz_id  
FOREIGN KEY (quiz_id) REFERENCES quiz(quiz_id);
```

```
ALTER TABLE take_quiz  
ADD CONSTRAINT FK_tak_quiz_email  
FOREIGN KEY (student_email) REFERENCES person(email);
```