

Q1- Create trigger to prevent insert new Course with name length greater than 20 chars;

```
iti=# CREATE OR REPLACE FUNCTION check_course_name_length()
RETURNS TRIGGER AS $$
BEGIN
    IF LENGTH(NEW.name) > 20 THEN
        RAISE EXCEPTION 'Course name cannot be longer than 20 characters';
    END IF;
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;
CREATE FUNCTION
iti=# CREATE TRIGGER trg_check_course_name_length
BEFORE INSERT ON course
FOR EACH ROW EXECUTE FUNCTION check_course_name_length();
CREATE TRIGGER
iti=#
```

Q2- Create trigger to prevent user to insert or update Exam with Score greater than 100 or less than zero

```
iti=# CREATE OR REPLACE FUNCTION check_exam_score()
RETURNS TRIGGER AS $$
BEGIN
    IF (NEW.Score > 100) OR (NEW.Score < 0) THEN
        RAISE EXCEPTION 'Score must be between 0 and 100';
    END IF;
    RETURN NEW;
END;
$$ LANGUAGE plpgsql;
CREATE FUNCTION
iti=# CREATE TRIGGER exam_score_check
BEFORE INSERT OR UPDATE ON exam
FOR EACH ROW EXECUTE PROCEDURE check_exam_score();
CREATE TRIGGER
iti=#
```

Q4- Backup your Database to external file

```
postgres@ahmed-HP-EliteBook-840-G5:~$ pg_dump -U postgres -d iti -F t -f ./DB_backup.tar
postgres@ahmed-HP-EliteBook-840-G5:~$
```

Q5- Backup your Student table to external file

```
postgres@ahmed-HP-EliteBook-840-G5:~$ pg_dump -U postgres -d iti -t student -F c -f ./DB_backup.dump
postgres@ahmed-HP-EliteBook-840-G5:~$
```