---Question 11: Company policy says no employee can have the same bonus

alter table employees add constraint unique\_bonus unique(bonus);

-- Testing: Insert two records with same bonus should throw an error

insert into employees(emp\_id, full\_name, salary, dept\_id, bonus, age)

values (2, 'SAlisha', 29403, 2, 2000, 20);

insert into employees(emp\_id, full\_name, salary, dept\_id, bonus, age)

values (3, 'Ali', 30000, 1, 2000, 30); --this will fail because bonus must be unique

---Question 12: Add a dob DATE column with check employees must be >= 18 years old

alter table employees add dob date check(dob <= add\_months(sysdate, -216));

--reason: add\_months(sysdate, -216) = current date minus 18 years (12\*18=216 months)

---Question 13: Insert employee with invalid dob (less than 18 years old)

insert into employees(emp\_id, full\_name, salary, dept\_id, bonus, age, dob)

values (4, 'Ahmed', 28000, 2, 2500, 16, date '2012-01-01'); --will give an error

---Question 14: Drop the dept\_id foreign key, insert non-existing dept\_id, re-add constraint

alter table employees drop constraint fk\_dept;

insert into employees(emp\_id, full\_name, salary, dept\_id, bonus, age)

values (5, 'Maha', 21000, 9, 2100, 24); -- Allowed now (no FK check)

alter table employees add constraint fk\_dept foreign key(dept\_id) references departments(dept\_id);

--if we try inserting again with a non-existing dept\_id, it will fail

---Question 15: Drop age and city columns

alter table employees drop column age;

alter table employees drop column city;

---Question 16: Display departments and employees of those departments

select d.dept\_id, d.dept\_name, e.emp\_id, e.full\_name, e.salary

from departments d

left join employees e on d.dept\_id = e.dept\_id;

---Question 17: Rename column salary to monthly\_salary

alter table employees rename column salary to monthly\_salary;

--reason: constraints remain intact because only the column name changes,

---Question 18: Display all departments with no employees

select d.dept\_id, d.dept\_name

from departments d

left join employees e on d.dept\_id = e.dept\_id

where e.emp\_id is null;

---Question 19: Empty the table of students

truncate table students;

---Question 20: Find the department with maximum employees

select d.dept\_id, d.dept\_name

from departments d

join employees e on d.dept\_id = e.dept\_id

group by d.dept\_id, d.dept\_name

order by count(e.emp\_id) desc

fetch first 1 row only;