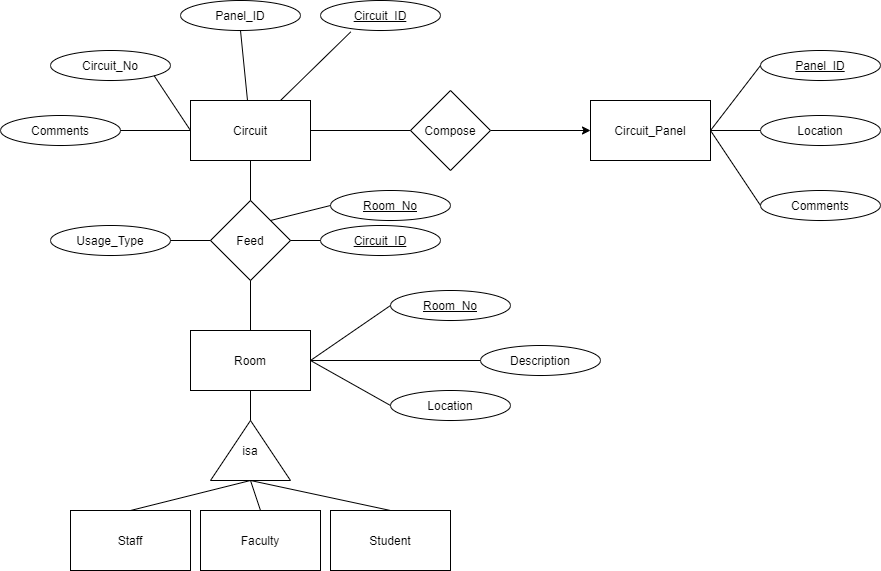
1



2.1

Circuit (Circuit\_ID,Circuit\_No, Panel\_ID, Comments)

Circuit\_ID=> Circuit\_No, Panel\_ID, Comments

Room (Room\_No, Description, Location)

Room\_No => Description, Location

Circuit\_Panel (Panel\_ID,Location,Comments)

Panel\_ID => Location,Comments

Feed (Circuits\_ID,Room\_No, Usage\_Type)

Circuits\_ID,Room\_No => Usage\_Type

Staff (Room\_No, Description, Location)

Room\_No => Description, Location

Faculty (Room\_No, Description, Location)

Room\_No => Description, Location

Student (Room\_No, Description, Location)

Room\_No => Description, Location

Compose (Panel\_ID,Circuit\_ID)

2.2

No, it does not violate the BCNF because for all functional dependencies, the left-hand side is a key. Where a key is an attribute that determines all other attributes.

3.1

SELECT Description

FROM Room

WHERE Room\_No = “118E”;

3.2

CREATE TABLE Circuit(

Circuit\_ID INT NOT NULL PRIMARY KEY,

Circuit\_No INT,

Comments VARCHAR(50),

Panel\_ID INT

);

3.3

DELETE FROM Circuit\_Panel

WHERE Comments = “TO BE DELETED”;

4.1  
(e)

First, create tables that do not contain foreign keys (Circuit\_Panel, Room), then create tables that contains foreign keys but are strong entities (Circuit), lastly create tables that are relations (with composite primary keys) that depend on other strong entities (Feeds).

4.2

SELECT \*

FROM Circuit

WHERE circuitComments LIKE “%old%”

ORDER BY Panel\_ID, Circuit\_No;

4.3

SELECT COUNT( DISTINCT Circuit\_ID)

FROM Feeds

WHERE Room\_No = 121;