WEEK 1

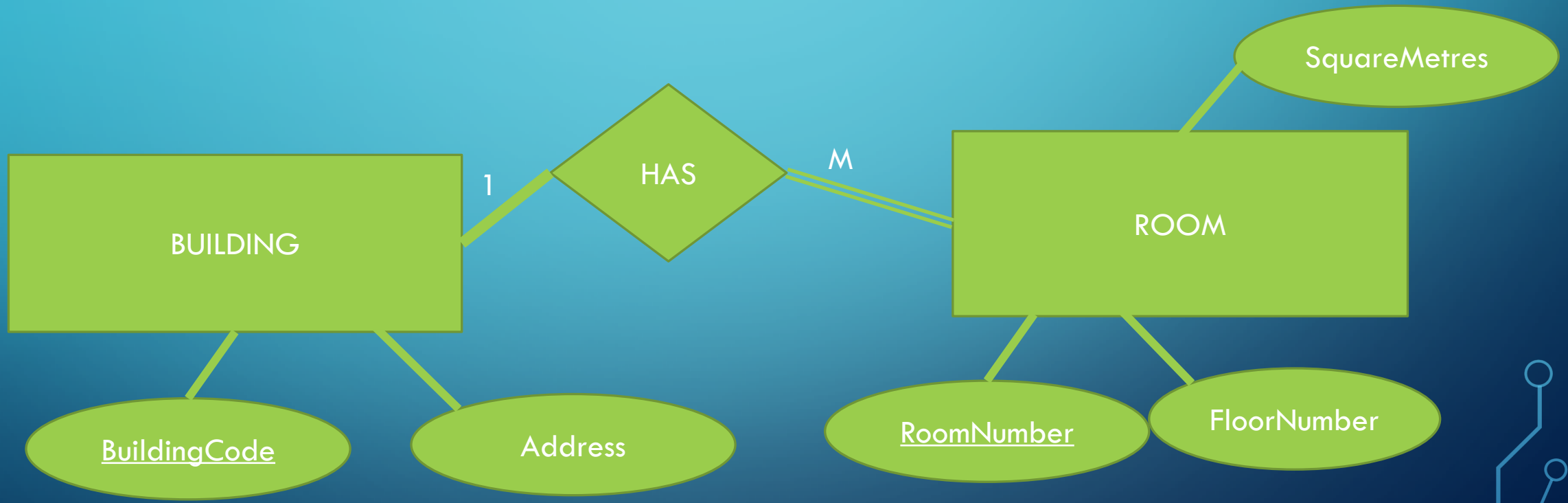
ENTITY RELATIONSHIP DIAGRAMS – WEAK ENTITIES – PART 5

STUDENT OBJECTIVES

- Upon completion of this video, you should be able to:
  - Identify a *Weak Entity* given a set of specifications.
  - Using a double outlined rectangle and diamond indicate a weak entity on an ER Diagram
  - Identity the OWNER Entity of a WEAK Entity.

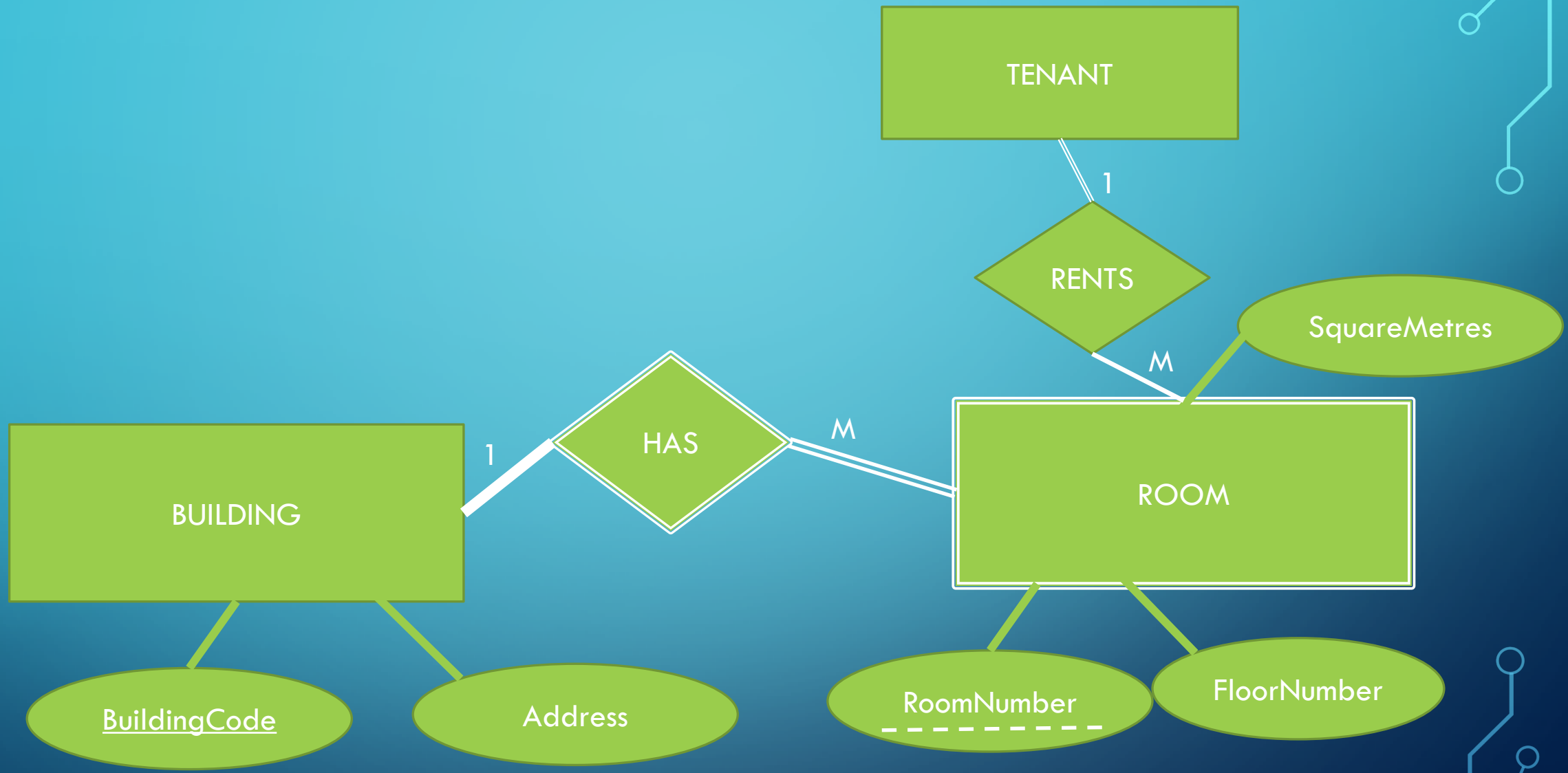
WHAT MAKES AN ENTITY WEAK?

- Look at the Entities: BUILDING and ROOM and at the Relationship HAS



WEAK ENTITY TYPES

- Have no key attribute of their own
- Cannot exist without its identifying owner
- Always has total participation with its identifying owner
- Always has a double line around the relationship with its identifying owner
- The identifying owner does not have to have 1 weak entity (partial participation)
- Can sometimes be represented at composite, multi-valued attributes
- Use a dashed underline to show the partial key of the weak entity
- Use a double outlined diamond to show the relationship with the owner entity


TENANT
1
RENTS
M
SquareMetres
1
HAS
M
BUILDING
ROOM
BuildingCode
Address
RoomNumber
FloorNumber

E-R DIAGRAM NOTATION SO FAR:

- Weak Entity

QUESTION: Can you see a weak entity in our case study?

CASE STUDY – CREATING AN ER DIAGRAM

- Suppose we plan to model a company which is organized into departments.
- Each department has a unique name, number and employee who manages it (we want to keep track of when the employee started managing the department)
- A department may have several locations
- A department controls a bunch of projects, each project has a unique number, name and a single location
- Each employee has a name, ssnumber, address, salary, sex and birthdate
- An employee is assigned to only one department but may work on several projects which are not necessarily from the same department
- Keep track of the number of hours each employee works on each project.
- Keep track of the direct supervisor of each employee
- Keep track of the dependents of each employee (name, sex, birthdate and relation)

QUESTION: WHAT IS OUR DIAGRAM SO FAR?

Let's use draw.io to finish the diagram.