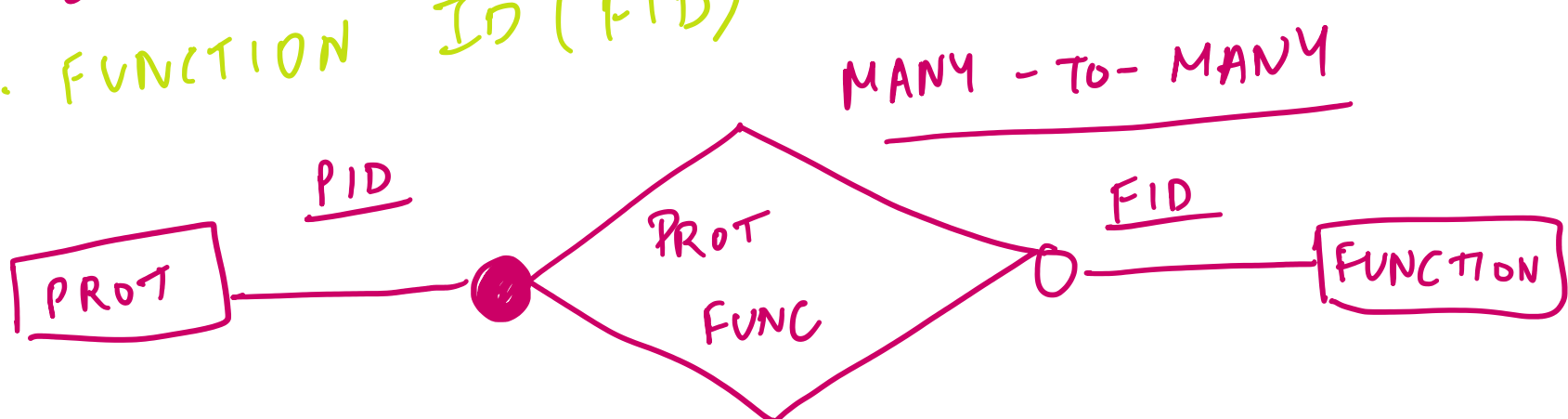


PROTEIN (entity)

- NAME
- SEQUENCE
- STRUCTURE
- PROTEIN ID (PID)

FUNCTION (entity)

- NAME
- CLASS
- SUBCLASS
- FUNCTION ID (FID)

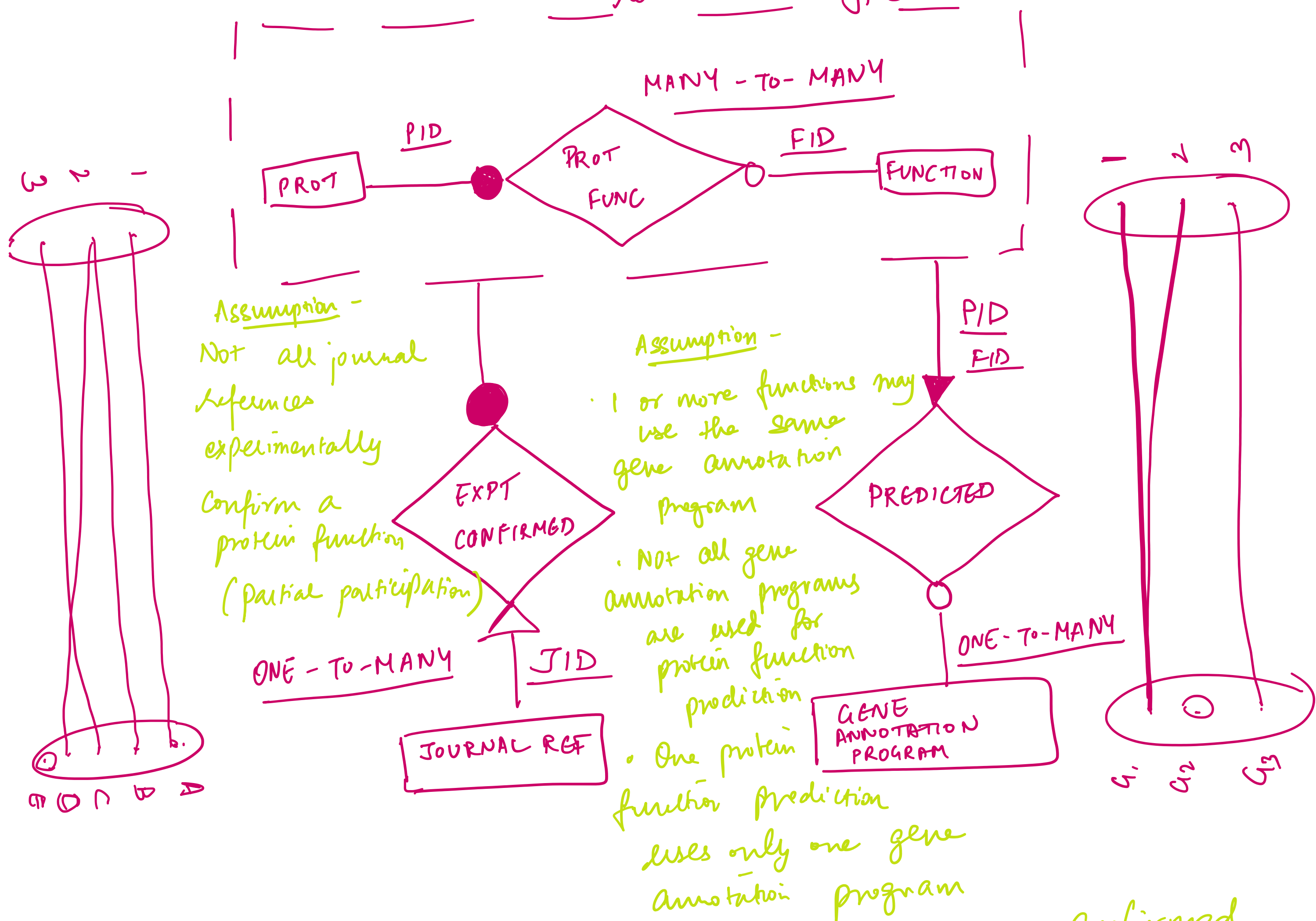


A protein has at least one function. (total participation)

But there might be some functions not covered by proteins but other macromolecules (hence partial participation)

1 or more proteins can have the same function

relationship aggregate



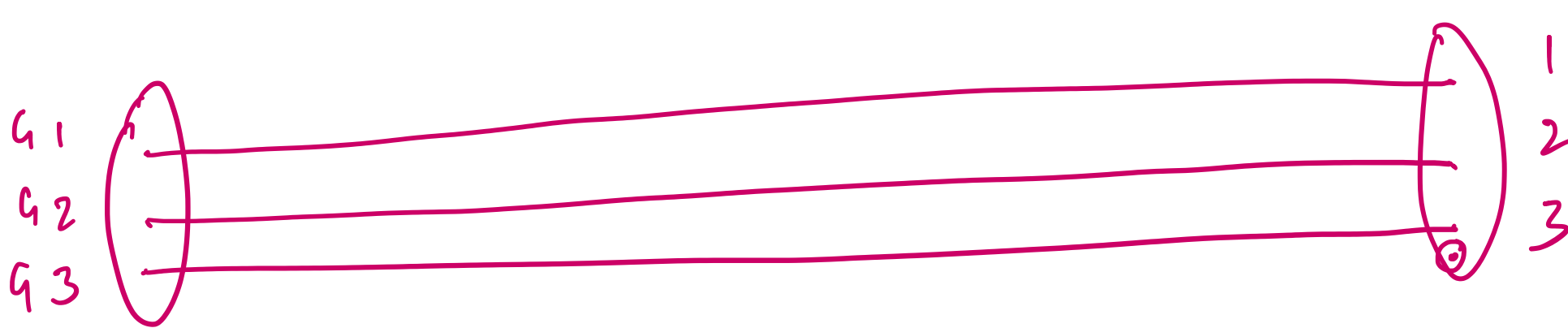
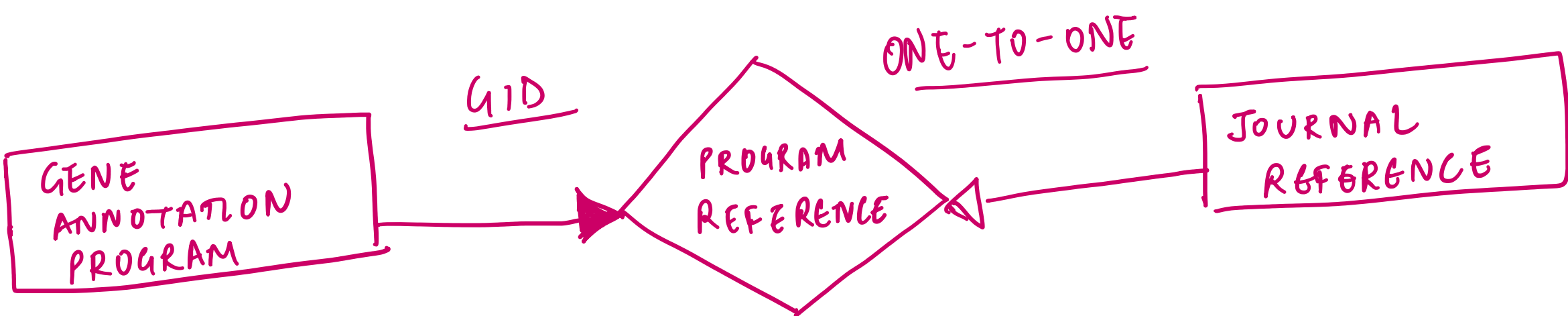
All proteins functions are predicted or expt confirmed (total participation)

GENE ANNOTATION PROGRAM (entity)

- ID (GID)

JOURNAL REFERENCE (entity)

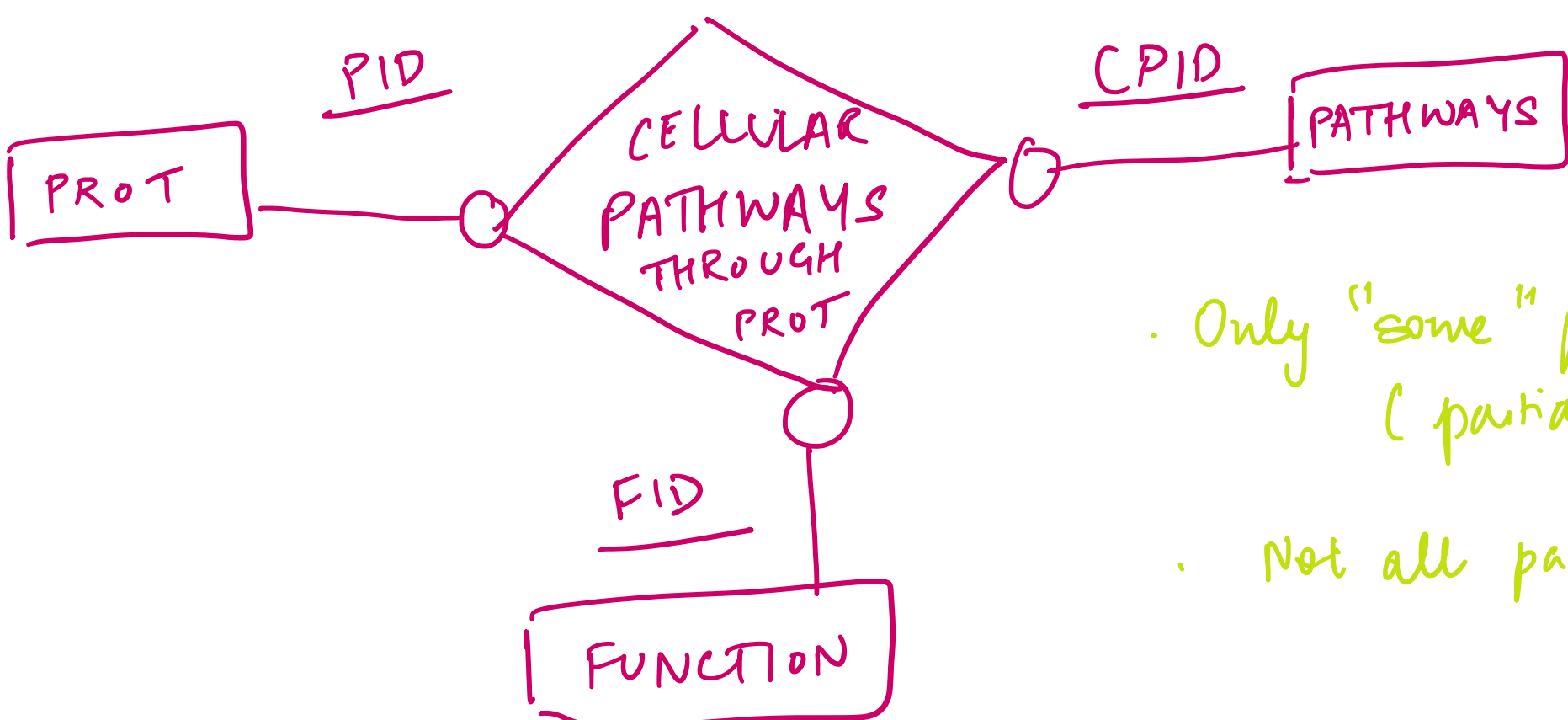
- ID (JID)



Assumption - Not all journal references necessarily need to even discuss gene annotation programs. They can refer to other subjects as well.

Cellular Pathway (entity)

- ID (CPID) ternary relationship



Assumptions -

- Only "some" proteins function in 1 or more pathways (partial participation)
- Not all pathways are carried out by proteins (partial participation)

