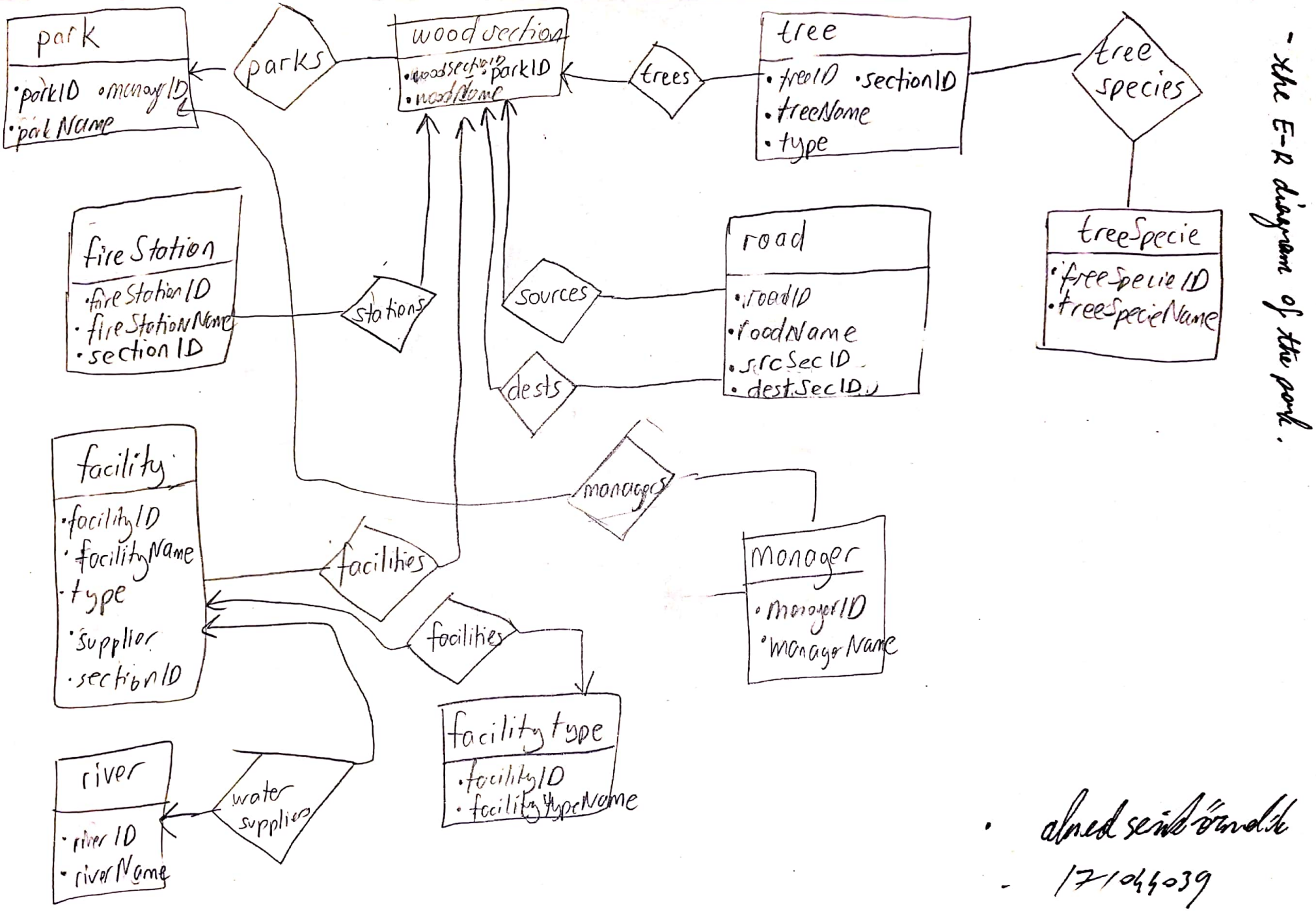

- the E-R diagram of the park.

- ahmed seid ömer
- 17104039

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2- all functional dependencies.

parkID → parkName

woodSectionID → parkID

treeID → treeSpecieID, woodSectionID

treeSpecieID → treeSpecieName

roadID → srcSecID, dstSecID,

fireStationID → facilityID, fireStationName

managerID → managerName

riverID → riverName, facilityID

facilityTypeID → facilityTypeName

3- to be able to satisfy Boyce-codd normal form, there are two conditions needs to be satisfied: 1. 3NF rule, 2. superkey

a) all tables, relations satisfy BCNF. Since they satisfy 3NF rule, and for dependency $X \rightarrow y$, X is primary key.

2 relations:

- treeSpecieID → treeSpecieName
- RoadID → srcSecID, dstSecID

b) there isn't any relations that does not satisfy BCNF.

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4. we mentioned that, all relations satisfy the 3NF criteria. To be able to satisfy 3NF, 2 conditions required =

a) 1. 2NF rule . 2. whether candidate key is in the scheme.

- fireStationID → facilityID, fireStationName
- treeID → treeSpeciesID, woodSectionID

b) there isn't any relations that does not satisfy 3NF.

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