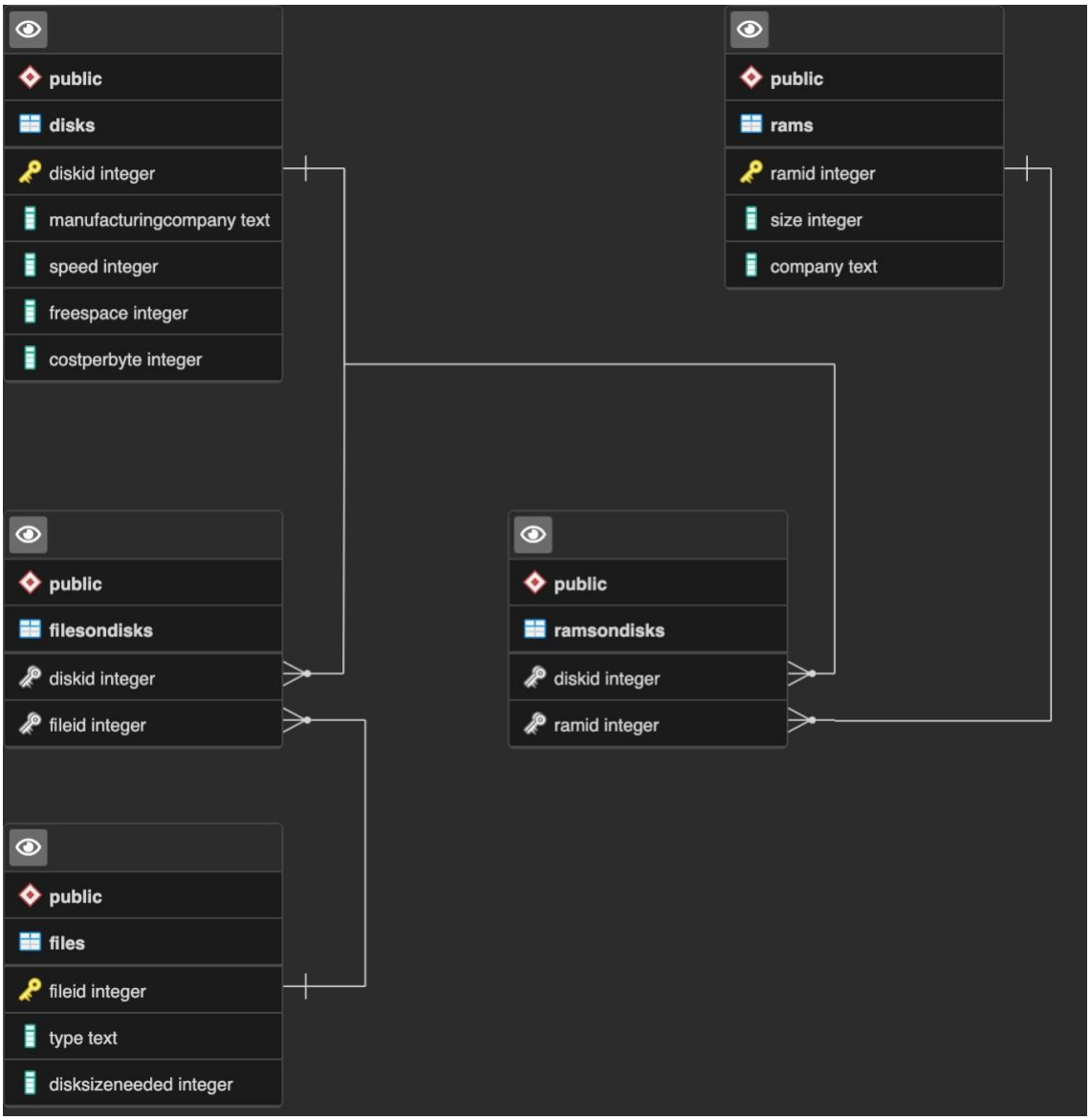
HW 2 – Database design:



As part of our implementation of the assignment, we have created 5 tables - as can be seen in the above schema.

Disks (diskId, manufacturing_company, speed, free_space, cost_per_byte) – diskId is PK
Files (fileId, type, fileID) – fileid is PK
Ram (ramID, size, company) – RamID is pk
FilesOnDisks (diskID, fileID) - diskID, fileID are FK to their respective tables. This table holds the connection between files, and disks that are storing them.

ramOnDIsks (diskId, RamID) - diskId, RamID are FK to their respective tables. like FilesOnDisks, this table stores the connection between rams and disks.

NOTE: all the type checks that we have introduced to the tables can be seen in the creation of the specific table in the implementation.

In addition to those tables, we have introduced several views:

- TotalRAMForDisk (DiskId, TotalRam) – for each diskId we sum the amount of ram size that is linked to it.
- DiskCountPerFile (fileID, disks) – for each fileID we count the number of disks that store the fileid.
- FilePairs (fid1, fid2) – pairs of different fileID's.
- FilePairsCommonDisks (fid1, fid2, CommonDisks) – for each combination of fid1, fid2 (pair of files) we count the number of disks that stores both.