



DBMS :- IT-214

Project :- Merit Mapper (Academic Year - 2025)

Group Members:-

Namra Kachhia - 202301129

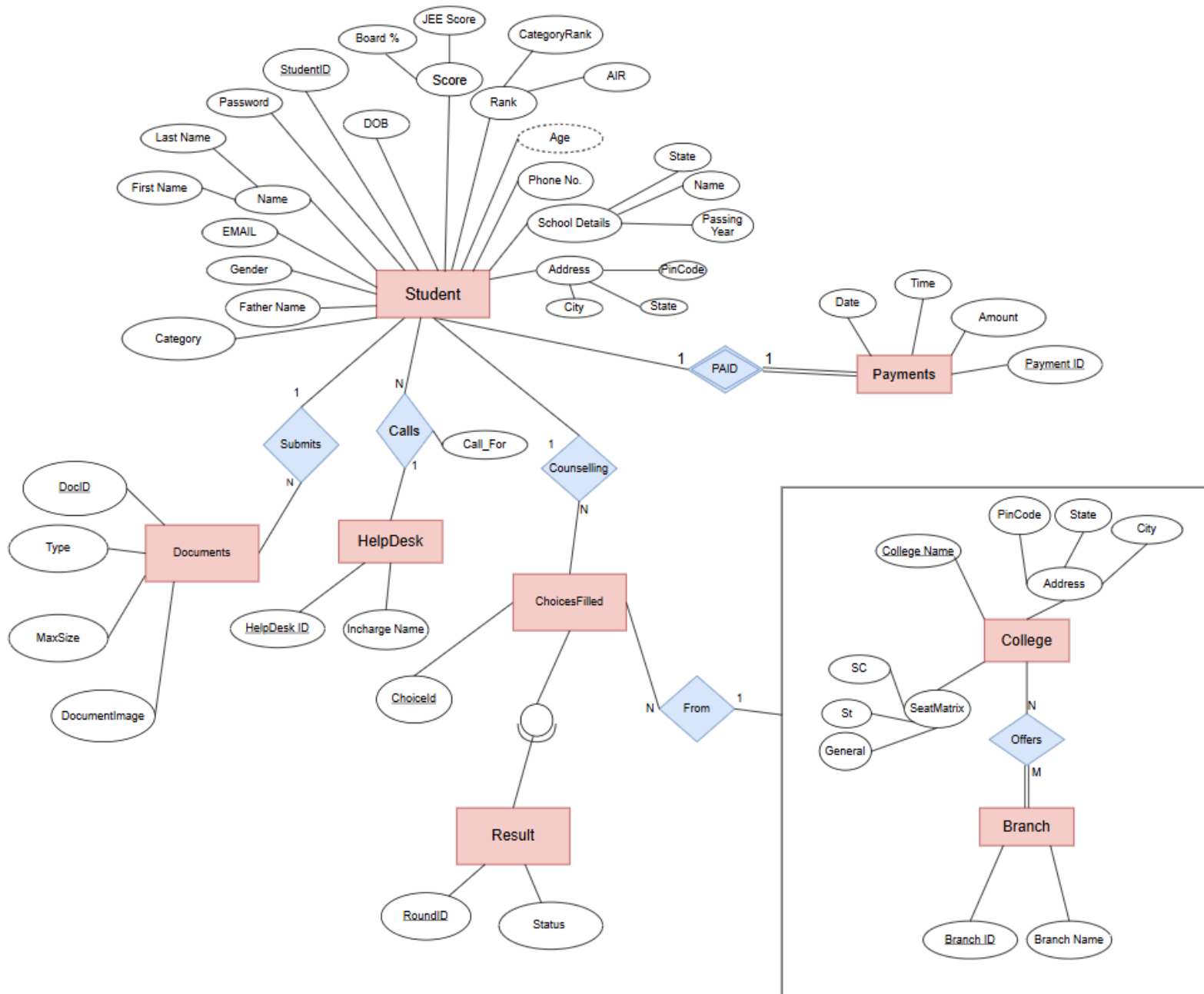
Meet Jain - 202301073

Namra Sanandiya - 202301 130

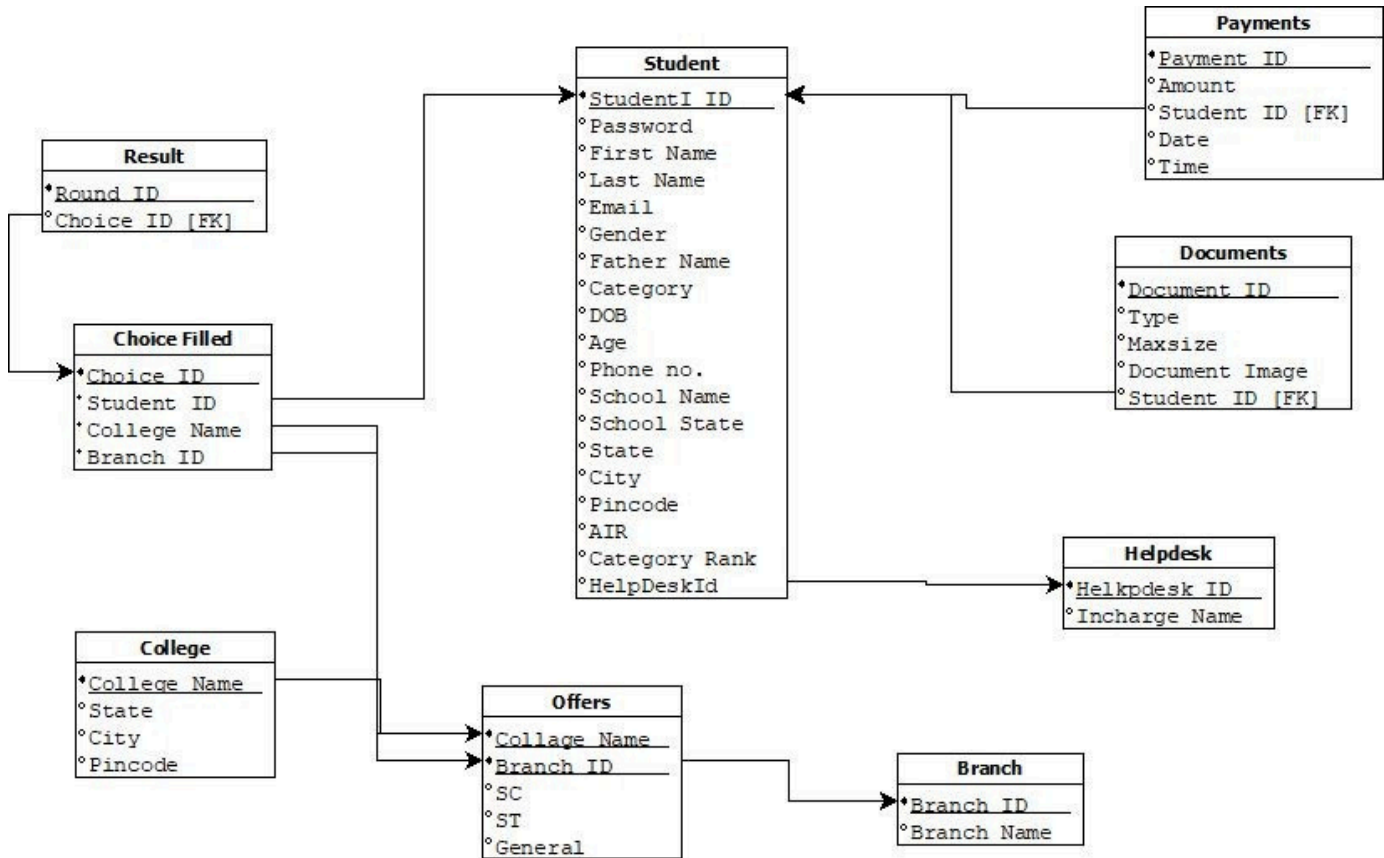
Shubh Raj - 202301125

Rishank Dhudhat - 202301 068

Final Er Diagram



Relational Schema (in Dia):-



Normalisation Proofs:-

$\text{StudentId} \rightarrow \{ \text{Password, First Name, Last Name, Email, Gender, Father Name, Category, Age, Phone no. , School Name, School State, State, City, Pincode, AIR, Category Rank, HelpDeskID, Board\%} \}$

- StudentId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

$\text{HelpdeskId} \rightarrow \text{Incharge Name}$

- HelpdeskId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

$\text{PaymentId} \rightarrow \{ \text{Amount, Date, Time, StudentId} \}$

- PaymentId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

DocumentId \rightarrow {Type, Maxsize, Document Image, StudentId}

- DocumentId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

CollegeName \rightarrow {State, City, Pincode}

- CollegeName being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

BranchID \rightarrow Branch_Name

- BranchId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.
- Thus, it is in the BCNF Form.

$\{\underline{\text{CollegeName}}, \underline{\text{BranchID}}\} \rightarrow \{\text{SC}, \text{ST}, \text{General}\}$

● {CollegeName, BranchID} being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.

● Thus, it is in the BCNF Form.

$\underline{\text{ChoiceId}} \rightarrow \{\text{StudentId}, \text{CollegeName}, \text{BranchId}\}$

● ChoiceId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.

● Thus, it is in the BCNF Form.

$\underline{\text{RoundId}} \rightarrow \text{ChoiceId}$

$\{\underline{\text{RoundId}}, \underline{\text{ChoiceID}}\} \rightarrow \text{Status}$

● RoundId being the key determines every attribute in the relation, it is on the left side of all FDs in Minimal FD set.

● Thus, it is in the BCNF Form.

~The End
