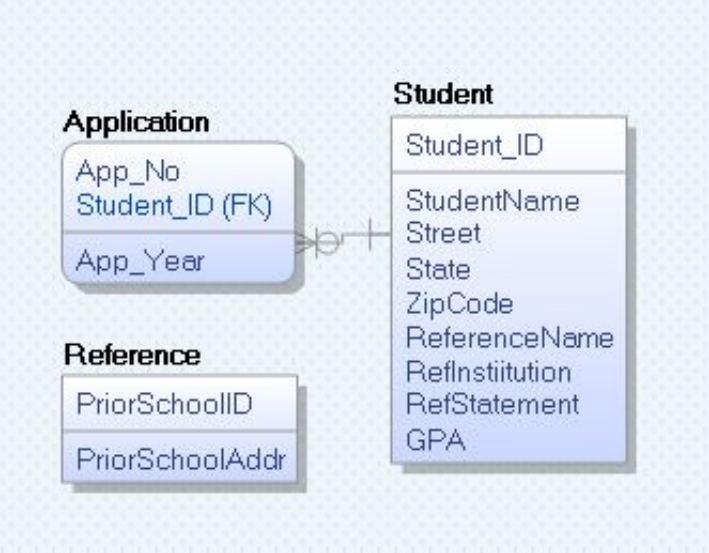
Exercise 2

UNF

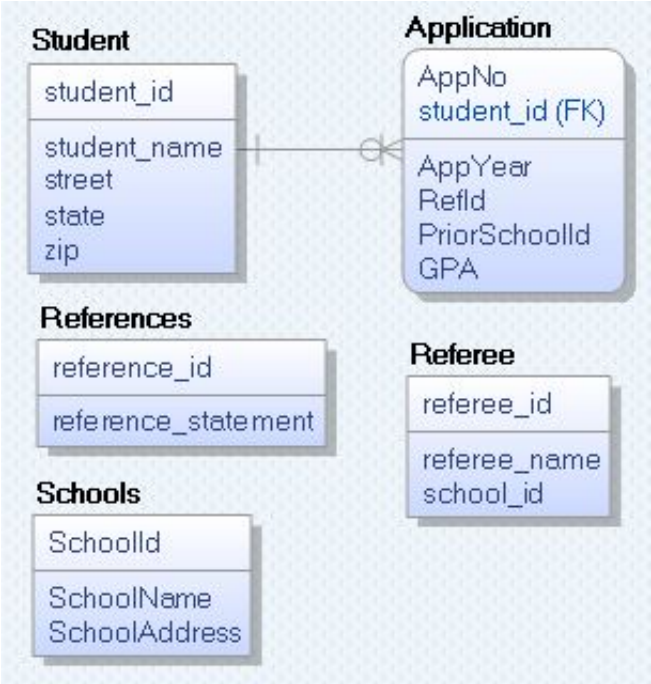
1NF

data is seperated into tables and a relationship is stablished, repeating attributes are eliminated



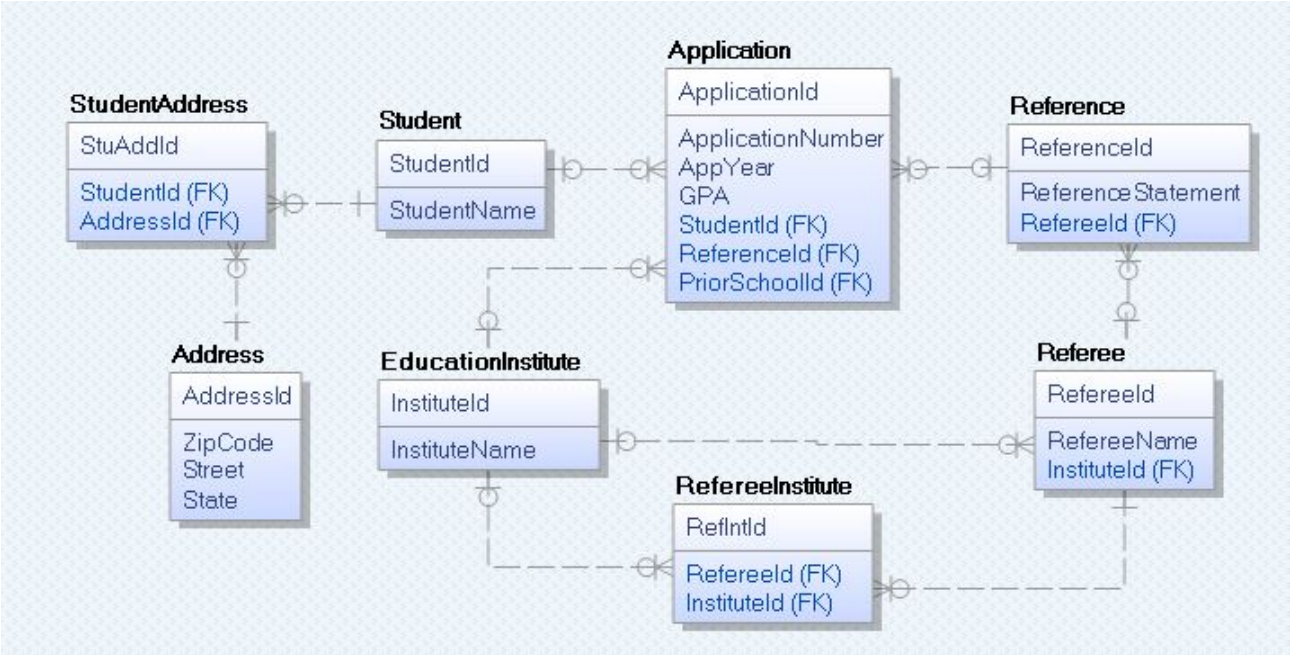
2NF

data is further broken down to reduce dependencies and repeating data



3NF

relationships are estalished to ensure a structure and reduced dependencies, it reduces the byte size through dastrically reducing the repedition of tables and entities



Storage Effiency:

Unnormalised:

(4 + 4 + 50 + 100 + 30 + 7 + 4 + 100 + 100 + 500 + 4 + 100 + 4) *36 = 1007

Normalised:

Education Institute:
(4+100) * 10 = 1040

Referee
(4 + 50) * 4 = 208

RefreeInstitute:
(4 + 4 + 4) * 6 = 72

Address:
(4 + 7 + 30 + 100) * = 1128

Student:
(4 + 50) * 6 = 324

Application:
(4 + 4 + 4 + 4 + 4 + 4 + 4) * 36 = 1008

Reference:
(4 + 500) * 9 = 4536

StudentAddress:
(4 + 4 + 4) * 9 = 108

Total Normalised

1040 + 1008 + 208 + 4536 + 72 + 108 + 1128 + 324 = 8424

Gain in Storage Efficiency

26252/8424 * 100 = **418%** Increase in Efficiency