# LAB 2 – Advanced Databases –Kieran Hogan – C12561353

# Normalization

Q1)

1NF: customer [ custno, cust\_name, cust\_street, city, state, zip, cust\_phone, artist\_id, artist\_name, paint\_code, paint\_title, pur\_date, price ]

2NF: customer [ custno, cust\_name, cust\_street, city, zip, cust\_phone] sales [ custno (FK), artist\_id (FK), paint\_code (FK), pur\_date, price ] paintings [ paint\_code, paint\_title] artists [artist\_id, artist\_name]

3NF: customer [ custno, cust\_name, cust\_street, city, zip, cust\_phone] zips [zip, city ] sales [ custno (FK), artist\_id (FK), paint\_code (FK), pur\_date, price ] paintings [ paint\_code, paint\_title] artists [artist\_id, artist\_name]

Q2)

1NF: Applications[ App\_No, StudentID, StudentName, Street, State, ZipCode, ApplicYear ReferenceName, RefInstitution, ReferenceStatement, PriorSchoolId, PriorSchoolAddr, GPA ]

2NF: Applications [ App\_No, ApplicYear, ReferenceName, RefInstitution, ReferenceStatement]

Students [StudentID, StudentName, Street, State, ZipCode ]

Refer[ ReferenceName, RefInstitution, ReferenceStatement ]

3NF : Applications[ App\_no[PK], StudentID[FK], ReferenceName, RefInstitution, PriorSchoolID ]

Student[ StudentID[PK], StudentName, AddressID[FK] ]

Address[ AddressID, Street, State, ZipCode ]

Refer[ ReferenceName[combined PK], RefInstitution[combined PK], ReferenceStatement ]

PriorSchool[ PriorSchoolID,[PK] PriorSchoolAddr, GPA ]

1)

2)

3)

4) In order to estimate the size of the table, assume that a varchar(X) has a size of X bytes, a date has a size of 8 bytes, an integer has a size of 4 bytes and a number(2) has a size of 4 bytes.

1221/1007 = 1.21