Why the Design of the Database “CegepCollege” conforms to the Third Normal Form (3 NF) ?

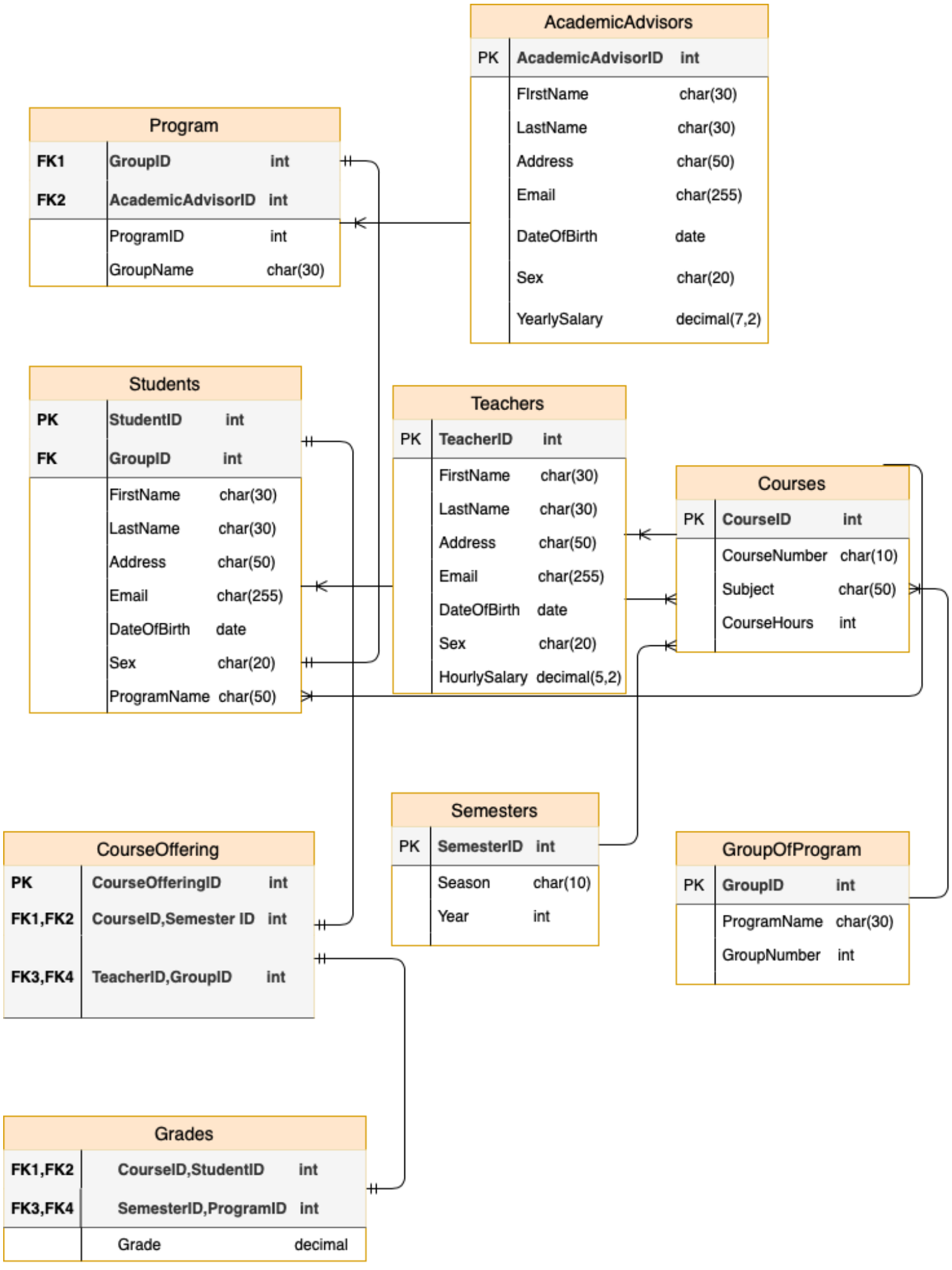
This design of Database for “**Personnel and Student Management System for Cégep”** conforms to the Third Normal Form (3 NF) because of the following reasons:

- Each cell of table is containing a single value and every row in each table is providing a unique record which is identifiable by a Primary Key, which in turn, satisfies the **First Normal Form (1 NF) .**

- All The tables are not containing any redundant data and the data in each of the tables are dependent on the Primary Key. Therefore, **Second Normal Form (2 NF)** is also satisfied.

- All the tables are not having the Transitive Functional Dependencies, i.e, the dependency in which three or more attributes or the database columns have a functional dependency between them. Therefore, this also satisfies the **Third Normal Form (3 NF)**.

Physical ERD for the Database “CegepCollege”


AcademicAdvisors
PK AcademicAdvisorID int
FIrstName char(30)
LastName char(30)
Address char(50)
Email char(255)
DateOfBirth date
Sex char(20)
YearlySalary decimal(7,2)
Program
FK1 GroupID int
FK2 AcademicAdvisorID int
ProgramID int
GroupName char(30)
Students
PK StudentID int
FK GroupID int
FirstName char(30)
LastName char(30)
Address char(50)
Email char(255)
DateOfBirth date
Sex char(20)
ProgramName char(50)
Teachers
PK TeacherID int
FirstName char(30)
LastName char(30)
Address char(50)
Email char(255)
DateOfBirth date
Sex char(20)
HourlySalary decimal(5,2)
Courses
PK CourseID int
CourseNumber char(10)
Subject char(50)
CourseHours int
Semesters
PK SemesterID int
Season char(10)
Year int
GroupOfProgram
PK GroupID int
ProgramName char(30)
GroupNumber int
CourseOffering
PK CourseOfferingID int
FK1,FK2 CourseID,Semester ID int
FK3,FK4 TeacherID,GroupID int
Grades
FK1,FK2 CourseID,StudentID int
FK3,FK4 SemesterID,ProgramID int
Grade decimal