Python Project Phase 1

High School Management System

**Identification of the problem (introduction – brief description is required) –**

We are going to use a high school management system. High school students are responsible for their future endeavors such as applying for secondary schools, being able to qualify for scholarships, and other activities. The main concentration will be the students. Teachers and parents will be involved. The problem is for the high school students to prepare themselves for the secondary institutions and try hard in high school for them to be successful in the future life.

**Definition of minimum six scenarios (separately define each scenario) and explain how it integrates to the project**

Six scenarios are: student course registration, teacher parking permit registration, secondary school registration, honour roll registration, secondary school registration, scholarship eligibility awards eligibility, and parents’ feedback. Student course registration will involve students registering for classes of high school which will include science, gym, math, languages, and other classes. The teacher parking permit will involve unique teacher permits to park on specific assigned parking lots. Secondary school registration will involve high school students who have finishing grade 12 and going to apply to either college or university programs. The students will use their student id to register to secondary programs and must meet the minimum grade requirements to gain entry. Honour roll eligibility will be for those students who achieved 80% or higher in their academic years of either grade 9, 10, 11, or 12. Scholarships are for those grade 12 students who have achieved high enough grades can earn grants and scholarships for funding of their secondary school programs. The parent’s feedback is a scenario which parents of the students provide one or two comments about how the teachers are treating the students in fair or unfair way. Parents will have the opportunity to be involved in changing the school policy or curriculum of the courses taught in high school.

**Define tables in database associated to each scenario**

The tables will be defined as: secondary school, honour roll graduation, courses, teachers, teacher parking permit registration, parents, scholarships, and students. The secondary school table will be responsible for registering students to college and universities. The honour roll graduation table will be for students who are eligible for honour roll list if they achieve 80% or higher in their academic years. Courses table are for student for registering for various classes. Teachers table is for teachers interacting with parents, courses, and parking permits. Teacher parking permit registration table is only for teachers parking into unique parking spots on the school premises. Parents table is for parents providing feedback towards the school curriculum.   
Scholarships table is for those students who meet the minimum grade requirement and volunteer hours requirements. The student’s table is the main table for which each student interacts with the other tables.

**Define fields used for each table and explain its importance associated to the scenarios defined –**

The secondary school fields are secondary\_school\_name, student\_id, minimum\_student\_grade\_requriement, campus\_location, and Tuition\_fees. This table involves the name of the school, student identifications associated for when identifying which student is registering to which school, students will need to meet the minimum grade requirements for the post-secondary school, the campus location is there the school is, and the tuition fees is the amount owing by the student. The honour roll graduation will in involve the honour\_roll\_list, student\_id, minimum\_student\_grades\_requirment, qualifying\_courses, and monetary award. The honour roll list will in involve a list of students who qualify for having 80% or higher from the student table of grades, student id is to identify which student is eligible, the award will be given to only qualifying courses from the courses table, monetary award is awarded depending on who has the highest percentile. The course table have course\_id, student\_id, teacher\_id, course\_name, and school\_department. The course id is to identify which course is being taken by a student, the student id is for identifying which student is taking which course, teacher id is to identify which teacher from the teachers table is teaching which course, and school department is to identify which category is for each course. The teachers table has teacher\_id, first\_name, last\_name, school\_department, and school\_address. The teacher id is to identify which teacher is teaching which course and which permit is registered. Parking permits has parking\_id, teacher\_id, parking\_lot\_number, school\_name, and school\_address. The parking id is for identifying which id number matches with which teacher, the teacher id is to identify which teacher is using the parking space, the parking lot number is for which lot number is used and not by any other teacher, the school’s name and address is for identifying the school. Parents table is parents\_name for identifying the parent, student\_id is for identify which student has which parent, teacher\_id is for categorizing which teacher is for which parent, feedback\_comments is the feedback from parents to school curriculum, and home\_address is for where the parents located. Scholarships has scholarship\_name for identifying what scholarship is available, student\_id is for identifying which student has applied to which scholarship, volunteer\_requirment is for students who need specific number of hours to apply, minimum\_student\_grades\_requirement is for students who need a minimum grade to apply for the scholarship, and amount\_awarded is the monetary amount for the scholarship award. The table “Students” has student\_id for identifying the students, first\_name and last\_name are the names for the students, student\_grades is for which students have achieved which what grades in order to qualify for the other scenarios in the project, and volunteer\_hours is for qualifying for the scholarship scenario.