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Professor Arias

Software Development I

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Student Possible Retention in Poughkeepsie

For the Semester project, I decide to do database project. In the begin of the semester, I have research a bit for the cause of student retention in Marist College. I want to continue to the research and create a program that will use data from the research to make analyzation and a form a prediction of possibility of student's retention, of student probation, student dropout. For the first step, I will continue research on regions such as New York City, Miami, and Poughkeepsie. I will go to census.gov to find family average income, divorce rate, dropout rate, etc. I will save the data from different locations as csv files that can be implement into java file. To read the file, I will download the Apache POI library that enable java to read from csv file. Then I will go to the Marist website to record the tuition, cost of room and board, cost of meal plan, average book cost, average transportation cost, requirement for academic scholarship, amount the scholarship awards. Next, I will create a csv file that will store these data. After, I will create a class call Marist that will read the data from the Marist csv file and store those data as constant in an object. For the second step, I will create a Student csv file that contain data of different student and a class call Student that will invoke several instances to read the data from Student csv file and store as properties. The student instance will implement its properties into the algorithm to be calculate using data from the instance of class Marist and instances of class locations. The instances will contain properties such as family contribution, average transportation fee, grade point average, class performance, awarded scholarships, and third-party

scholarships. For the third step, I will create algorithm to calculate the possibility of student's retention. I will utilize spreadsheet formulas created by my former supervisor from Pace Upward Bounce to calculate financial ability to continue in Marist. Then I will create a formula to use the GPA and the class performance to calculate if student is going to be into academic probation. From academic probation, I will calculate if the student will be in academic retention or dropout. For the final step, I will write the java file will created the instance and import the data into the algorithm to analyze and result a prediction as output.