**KYDF REUBEN SECONDARY SCHOOL EXAMINATION MANAGEMENT SYSTEM**

Kenya Youth Development Fund (KYDF) Reuben Secondary School is an NGO-based mixed day secondary school located in Mukuru Kwa Reuben Slums, Nairobi Kenya. KYDF Reuben Secondary School offers the 8-4-4 curriculum of education for students from form 1 to form 4.

Each class in the school has a single stream. Each class is administered by a class teacher. The class teacher maintains a class list of all the students in his or her class.

Each term, the school offers two examinations: midterm exam and the end term examination. For each examination, the total score for each student is computed for all the subjects taken. At the end of the term, the students are ranked based on the average off their totals in the two examinations. The school recognizes and awards the best student at the end of every term.

The most improved student in each class is awarded. To determine the most improved student, the difference between last term’s results and the current term’s results are considered. At the end of each term, each student is issued with a report form for the two examinations to take to their guardians.

The following subjects are offered at KYDF Reuben Secondary School: Mathematics, English, Kiswahili, Chemistry, Biology, Physics, Geography, History, Christian Religious Education, Agriculture, Business Studies and Computer Studies. . All students in Form 1 and Form 2 take eleven subjects while those in form 3 and form 4 take seven or eight subjects. For form 1 and 2 students, their mid-term examination is graded out of 30 while the end-term exam is graded out of 70. The total marks used for ranking the student are calculated by adding the score in the mid-term exam and the score in the end-term examination. The total score is out of 100 marks. The score in each subject is graded with its respective grade between “A” and “E” depending on the respective subject grading system. The student’s average grade is also calculated.

For form 3 and form 4 students, the mid-term exam is used for continuous assessment of the student’s progress in his or her academic work. Only the end-term exam is included in the final report form and used for ranking the students. The score in each subject in paper 1, paper 2 and/or paper 3 is recorded and used for calculating the total score. The total score in each subject is calculated based on individual subject totaling system and later graded according to the respective subject’s grading system. When calculating the average mean grade for the student, only 7 subjects are considered according to set rules of grading.

The problem at hand is to develop a computerized examination results management system that would be able to:

1. Capture the data of:

* Students in each class
* Teachers and the respective subject they teach
* Student marks in each examination
* Any other relevant data

1. Perform the following computations:

* Students total marks
* Student grades in each subjects
* Student average mean
* Ranking of students in each class
* Top ten students in each class
* Top ten boys in each class
* Top ten girls in each class
* Subject mean scores in each class
* Ranking of subjects in each class
* Comparison of girls and boys performance in each class
* Subject champions in each class
* Student improvement/drop in each class
* Most improved/dropped student in each class

1. Generate the following:

* Class lists for each class
* Mark list for each subject in each class
* Report forms for each student
* Merit lists for each class
* Results analysis reports