

Examining the academic performance of non-resident students

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1 Executive summary

The aim of this study was to determine whether a student needs to be good at mathematics to excel in computer science. This report examines the impact of a student's mathematical background on their academic performance and programming expertise as well.

2 Introduction

Computer science involves studying algorithms. While pursuing the programme, it becomes apparent that algorithms and mathematics go hand in hand. This is why in the current computer science curriculum, mathematics is almost omnipresent. Students are introduced to various mathematical concepts such as calculus, numerical methods and discrete mathematics. Thus passing mathematics at the lower levels has over the years been a pre-requisite before one can pursue computer science in any reputable university across the globe.

The purpose of this study was to determine whether a student needs to have a good mathematical background in order to excel in computer science. This study was focused around computer science students in reputable institutions of higher learning in Uganda.

3 Methodology

Most of the information was obtained by interviewing several computer science students. A questionnaire was developed and this was used to build an ODK form with a number of vital field types such as media, text, number (integer and floating point).

The built form was later on transferred to an android phone that had the ODK collect application installed on it. ODK Collect was formidable during the data collection process since we could easily transfer data to the aggregate server.

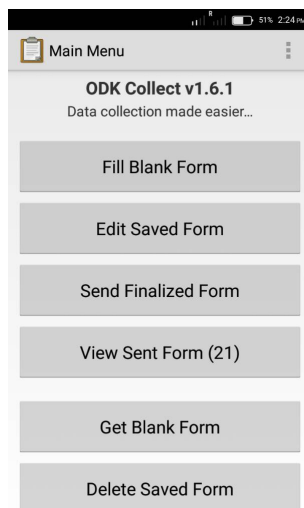


Figure 1: ODK Collect Main Menu

University Student Data

Student's Name
Lutalo sabastian

Recent Photo
1495568203773.jpg

Programme/Course
Bscs

Employee Status
No

Marital Status
Single

Place of Residence
Nkrumah

GPS Coordinates
0.336538, 32.569190

Alevel Results
18

Go Up Exit

Figure 2: Filled Form

View Sent Form A-Z Q

Finished scanning.

University Student Data
Sent on Tue, May 23, 2017 at 21:51

University Student Data
Sent on Tue, May 23, 2017 at 21:53

University Student Data
Sent on Tue, May 23, 2017 at 21:56

University Student Data
Sent on Tue, May 23, 2017 at 21:58

University Student Data
Sent on Tue, May 23, 2017 at 22:01

University Student Data
Sent on Tue, May 23, 2017 at 22:03

University Student Data
Sent on Tue, May 23, 2017 at 22:05

University Student Data
Sent on Tue, May 23, 2017 at 22:08

University Student Data

Figure 3: All Filled Forms

4 Results/Findings

The data uploaded to the server was used to create visualizations and this aided the analysis that led to a number of conclusions.

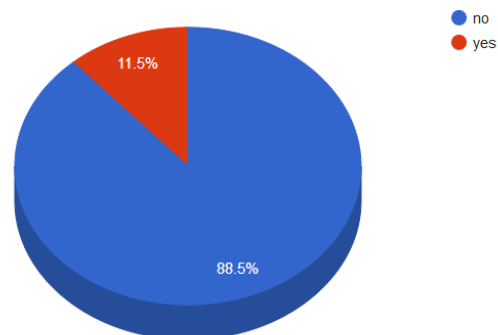


Figure 4: Evaluating students basing on their employee status

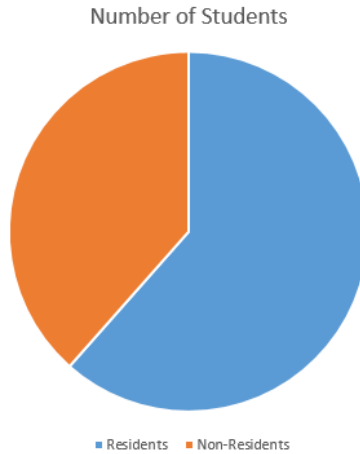


Figure 5: Evaluating students basing on their residential staus

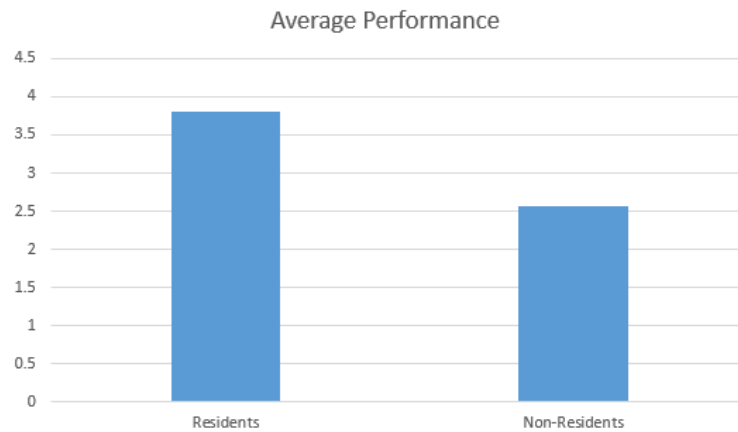


Figure 6: Relation between residential status and academic performance

5 Discussion/ Interpretation of Results

According to the findings, 88.5% of the students are not full time employees.

A bigger share of the students are residents.

The resident students have a far better average performance (3.81) compared to the non residents (2.57).

6 Conclusion

According to the analysis, resident students are more likely to perform better than their non residential colleagues.

7 Recommendation

I recommend that students that can afford to stay around or within campus to do, this allows them to have enough time to concentrate, cut down on the distractions and transport expenses as well.