



UNIVERSITY OF NAIROBI

COURSE TITLE: BACHELOR OF COMPUTER SCIENCE

UNIT TITLE: ASSEMBLY LANGUAGE PROGRAMMING

UNIT CODE: CSC 216

STUDENTS NAME: MWITURIA LEWIS MBURU

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TASK: ASSEMBLY LANGUAGE REPORT

PROJECT NUMBER: 40

PROJECT TITLE: PROGRAM TO MANAGE STUDENTS DATA

INTRODUCTION

This assembly language program's main objective is to manage data on students. The program is therefore supposed to be able to receive students' data as input, store the students' data input, enable users to view the students' data and enable for students' data to be discarded if it is not useful.

PROGRAM'S FUNCTIONALITY

The main objective helped in guiding in the creation of this assembly program. This assembly program mainly uses files to manage student data.

The program creates files and each file stores data for each student. The process for creating a file involves prompting the user to give the name of the file and also prompting the user to insert data of the student based on the questions asked into the file that is to be created.

The files created will be stored in the same folder as the program and will only be accessed by the program that created them.

The program also allows people to view students' data by allowing people to simply request for a particular student's file and then opening the file and show the student's data as output.

The program also allows people to delete student files if the files have no meaning whatsoever to the institution concerned by deleting the file whose name is given up for deletion.

The program closes after every operation and so one is expected to run the program again if he/she desires to do another operation on the files.

HOW TO RUN THE PROGRAM

- First start the Linux terminal.
- Type `whereis nasm`
- You see: `nasm: /usr/bin/nasm` if it is there; else it is not there so install NASM.
- Cd to the directory where the program is placed
- Then type **`nasm -f elf students_data_prog.asm`** to assemble the program
- If there is any error, you will be prompted about that at this stage. Otherwise an object file of your program named **`students_data_prog.o`** will be created.
- Then Type **`ld -m elf_i386 -s -o students_data_prog.o`**, to link the object file and create an executable file named **`students_data_prog`**
- Then type **`./ students_data_prog`** to run the program

PROGRAMS ALGORITHM

START

ASK USER TO CHOOSE FILE OPERATION

READ OPERATION

IF OPERATION IS CREATE

PROMPT USER FOR FILE NAME OF NEW FILE

READ NAME

CREATE FILE

PROMPT USER FOR INPUT OF STUDENT DETAILS

READS STUDENTS DETAILS

IF OPERATION IS OPEN

PROMPT USER FOR FILE NAME FOR EXISTING FILE

READS NAME

OPENS FILE

DISPLAYS STUDENTS DETAILS

IF OPERATION IS DELETE

PROMPT USER TO INPUT NAME OF FILE TO BE DELETED

READS NAME

DELETES FILE

ASK USER IF HE WANTS TO CREATE ANOTHER FILE

READS OPTION

IF OPTION IS YES

REPEAT CREATE OPERATION

STOP

PROGRAM FLOWCHART

