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: 29

PROJECT TITLE: PROGRAM TO MANAGE SOCCER TEAMS DATA

INTRODUCTION

This assembly language program's main objective is to manage data on Kenyan Soccer teams. The program is therefore supposed to be able to receive teams' data as input, store the teams' data input, enable users to view the teams' data and enable for teams' 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 soccer teams' data.

The program creates files and each file stores data for each Soccer team. 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 Soccer team 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 teams' data by allowing people to simply request for a particular team's file and then opening the file and show the team's data as output.

The program also allows people to delete team 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 teams_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 **teams_data_prog.o** will be created.
- Then Type **ld -m elf_i386 -s -o teams_data_prog.o,**to link the object file and create an executable file named **teams_data_prog.**
- Then type ./ **teams_data_prog** to run the program.

PROGRAM TO MANAGE SOCCER TEAMS DATA

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 SOCCER TEAM DETAILS

    READS SOCCER TEAM DETAILS

IF OPERATION IS OPEN

    PROMPT USER FOR FILE NAME FOR EXISTING FILE

    READS NAME

    OPENS FILE

    DISPLAYS SOCCER TEAM 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

```
                    ┌─────────────┐
                    │    Start    │
                    └──────┬──────┘
                           │
    ◇ Do you want to ──No──► ◇ Do you want to ──No──► ◇ Do you want to ──No──► ( 1 )
      create a file?          open a file?              delete a file?
           │                       │                         │
          Yes                     Yes                       Yes
           │                       │                         │
    / Input name /          / Input name /            / Input name /
    / of new file /         / of file to be /         / of file to be /
                            / opened /                / deleted /
           │                       │                         │
   ┌─────────────┐         ┌─────────────┐           ┌─────────────┐
   │ Reads new   │         │ Reads       │           │ Reads       │
   │ file name   │         │ existing    │           │ existing    │
   └─────────────┘         │ file name   │           │ file name   │
           │                └─────────────┘           └─────────────┘
   ┌─────────────┐         ┌─────────────┐           ┌─────────────┐
   │ Create new  │         │ Opens       │           │ Deletes     │
   │ file        │         │ existing    │           │ existing    │
   └─────────────┘         │ file        │           │ file        │
           │                └─────────────┘           └─────────────┘
   / Input team /          / Output team /                  │
   / details /             / details /              ◇ Do you want to
           │                       │                  create another
   ┌─────────────┐         ┌─────────────┐            file?
   │ Reads team  │         │ Close file  │          Yes ──┐      No
   │ details and │         └─────────────┘                │       │
   │ stores in   │                │                       │       │
   │ file        │                │                       │       │
   └─────────────┘                │                       │       │
           │                      ▼                        │       │
   ┌─────────────┐          ┌──────────┐ ◄─────────────────────────┘
   │ Close file  │ ───────► │   Stop   │
   └─────────────┘          └──────────┘
                                 ▲
                               ( 1 )
```