ER DIAGRAM:

does

manages

adds

Students’ records

departmant

User’s account

marksheet

administrator

Log in

changes

N

generates

ALGORITHM

Step 1: start

Step 2: user log in

1. Enter user name
2. Enter password

Step 3: to enter student’s data

1. Enter student’s id
2. Enter student’s name
3. Enter father’s name
4. Enter roll no
5. Enter address
6. Enter faculty
7. Enter level
8. Enter mobile no
9. Enter email address

Step 4: to view student’s record

1. Enter student’s id

Step 5 : to edit student’s record

1. Enter ‘r’ to re-write record
2. Enter ‘d’ to delet record

Step 6 : to re-write student’s record

1. Repeat step 3

Step 7: to delete student’s record

1. Enter student’s id

Step 8: to generate marksheet

1. Enter faculty
2. Enter level
3. Enter number of students
4. Enter subject name
5. Enter id of nth the student
6. Enter name of nth the student
7. Enter marks of nth the subjects

(loop from v to vii repeated)

Note: nth = no. of student starting from 1 to n number of student

Step 9: to change login user name and password

1. Enter old user name
2. Enter old password
3. Enter new user name
4. Enter new password

step 10 :stop

**ALGORITHM**

**Algorithm for main():**

Step 1: Start

Step 2:Login()

Step 3 :Stop

**Algorithm for login():**

Step 1: login()

Step 2: Initialize count=0

Step 3: Read user name

Step 4: Is file name as user name exist?

False: 1. Count++

2.If count =5

Then terminate program

Else goto Step 3

True : goto Step 5

Step 5: Initialize count =0

Step 6: Read password

Step 7: Does password exist as the content of the file ?

True : goto Step 7

False : 1.count++

2.*If* count = 5

Then terminate the program

else goto step 8

Step 8: home\_menu()

**Algorithm for home\_menu():**

Step 1: home\_menu()

Step 2: Display the home menu containing the option :

1. Data entry
2. Search
3. Edit
4. Marksheet
5. Change login user name and password
6. About
7. Exit

Step 3 : Read “choice”

Step 4 : Switch (choice)

1. Is choice =1 ?

True: i) call information()

ii) call datastore()

iii) Display menu :

1. Re-enter
2. Home\_menu
3. Search
4. Exit

iv) Read “op”

v) Switch(op):

1. Is op=1?

True: goto Step 4 (a)

False : goto next Step v (2)

1. Is op=2?

True: goto Step 2

False : goto next Step v 3

1. Is op=3?

True: goto Step 4 b

False : goto Step v 4

1. is op=4?

True: terminate the program

False:goto Step v 5

1. is op = any value but 1,2,3,4 ?

True :goto Step 4 a iii

False : goto next Step 4 b

1. Is choice=2?

True : i) call search() function

ii)goto Step 2

False : goto next Step 4 c

1. Is choice=3?

True: i) Display “do you want to re-write or delete the record”

ii) Read “opt”

iii) switch(opt)

1)is opt=’r’:

True: call rewrite() function

False : goto next Step

2) is opt= ‘d’:

True: call del() function

False : goto next Step

3) is opt = any value but ‘r’ & ‘d’ ?

True :goto 4 c

1. Is choice=4?

True: i)call marksheet() function

ii) goto Step 2

False: goto next Step

1. Is choice=5?

True: i) call account() function

ii) goto Step 2

False:goto next Step

1. Is choice=6?

True:i)call about() function

ii) goto Step 2

False: goto next Step

1. Is choice=7?

True: terminate the program

False : goto next Step

1. Is choice= any value but 1,2,3,4,5,6,7

Then Display “wrong value entered”

And goto Step 2

**Algotithm for information():**

Step 1: information()

Setp 2: Read student’s id no

Step 3 : Open file with name as id no in Read mode

Step 4: Is file opened ?

True: i) Display error message “id already exist”

ii)Display option “do you want to erase previous data

and create new one”

iii) Read “o” for choice

iv) Switch (o)

1) Is o=’y?’

True: goto Step 5

False :goto next Step

2) Is o=’n’ ?

True: goto Step 2

False : goto next Step

3) Is o= any value but ‘y’,’n’ ?

Then goto Step 4 (ii)

False: goto Step 5

Step 5: Read name, father’s name, roll no ,address, faculty ,level,

Mobile no, email address of the student

Step 6 : Stop

**Algorithm for datastore():**

Step 1: datastore()

Step 2: String concatenation - the student’s id with “.it”

Step 3 : Create file with name as student’s id in write mode

Step 4: Is file created?

True : i) put name, father’s name, roll no ,address, faculty ,level,

Mobile no, email address of the student in the file as file content

ii) Display success message “ data successfully stored”

False : i)Display error message “ sorry error to create database”

ii) Terminate the program

Step 5: Stop

**algorithm for search()**

Step 1: search()

Step 2: Read student’s id

Step 3 : string concatenation –the student’s id with “.it”

Step 4 : open file named as student’s id in Read mode

Step 5 : Is file open/exist?

True :i) Read file contents

ii) Display file contents

False: i)Display error message “sorry no file found “

ii) Display option to goto home\_menu or re-enter id

iii) Read “choice”

iv ) switch (choice)

1. Is choice=”h”?

True : call function home\_menu()

False :goto next Step

1. is choice = any value but “h”?

True : goto Step 2

Step 6 :Stop

**Algorithm for rewrite():**

Step 1: rewrite()

Step 2: Read student’s id

Step 3: string copy – student’s id to fname

Step 4:string concatenation –fname with “.it”

Step 5: open file named as fname in write mode

Step 6:is file opened?

False :i)Display error message “sorry failed to open a file”

ii) terminate the program

True :i) Read name, father’s name, roll no ,address, faculty ,level,

Mobile no, email address of the student

ii) call function datastore()

iii) call function home\_menu()

**Algorithm for del()**

Step 1 :del()

Step 2 : Read student’s id

Step 3 : string concatenation –the student’s id with “.it”

Step 4: open file named as the concatenated student’s id in Read mode

Step 5: is file opened/exist?

True: goto Step 6

False :i) Display error message ”sorry! Id didn’t match with our database”

ii)call function home\_menu()

Step 6 : remove file name as concatenated student’s id

Step 7 :Display success message “data has been successfully removed”

Step 8 : call home\_menu() function

**algorithm for account()**

Step 1: account()

Step 2:call function user\_ver*If*ication()

Step 3: Read new user name

Step 4: Read new password

Step 5: string concatenation – user name with ”.it”

Step 8:create file named as concatenation user name in write mode

Step 9: is file created ?

False:i) Display error message “’error to create new account

ii) Call home\_menu function()

True: i)Put new password in the file as file contents

ii) Display successful message “new user name and password

successfully created”

iii) String copy - pointer old user to old\_name

iv) Remove file named as old\_name

Step 10: Stop

**Algorithm for user\_verification()**

Step 1:User\_verification()

Step 2: Read old user name

Step 3:String concatenation-old user name with “.it”

Step 4:Open file named as old user name in Read mode

Step 5: Is file opened/exist ?

True: i)Read the content of the file as “pw”

ii) Read old password

iii)String compare old password and pw

iv) Are they same?

True: Stop

False :i)Display error message “user name and file didn’t match”

ii)Display option menu to goto home menu or reenter

password

iii) Read choice

iv) Switch (choice)

1. Is choice=’h’?

True :call home\_menu() function

False :goto next Step

1. Is choice = any character but ‘h’?

True:goto Step 5 (ii)

False :i)Display error message “user name incorrect”

ii) Display option message to re-enter user name or to go to home menu

iii)Read choice

iv) switch (choice)

a) is choice=’r’?

True:goto Step 2

False:goto next Step

b) Is choice=’h’

True : Call home\_menu() function

False : Goto next Step

c) Is choice =Any character but ‘h’ and ‘r’?

True: Goto Step ii

**algorithm for about()**

Step 1:about()

Step 2: Display information about the application software and all the other required

information

Step 3: Stop

**Algorithm for marksheet()**

Step 1: marksheet()

Step 2: Read faculty and level

Step 3: Read no of students (N)

Step 4: Read the name of subjects (5 subjects)-sub1,sub2,sub3,sub4,sub5

Step 5: Read the id,name ,and marks of sub1,sub2,sub3,sub4,sub5 of N students

Step 6: total marks of each students = (sub1+sub2+ sub3+sub4+sub5) of each students

Step 7: percentage of each students =(total marks of each students )/5

Step 8: assigning percentage in “div”

Step 9: Is div >=75 and marks of each subject >=32 ?

True: Display name of the student, marks of each subjects

,total marks,percentage,and division as “dist” ie distinction

False : goto Step 10

Step 10 : Is div <75 & >=60 and marks of each subject >=32 ?

True: Display name of the student, marks of each subjects

,total marks,percentage,and division as “firse”

False : goto Step 11

Step 11: Is div <60 & >=45 and marks of each subject >=32 ?

True: Display name of the student, marks of each subjects

,total marks,percentage,and division as “second”

False : goto Step 12

Step 12: Is div <60 & >=32 and marks of each subject >=32 ?

True: Display name of the student, marks of each subjects

,total marks,percentage,and division as “third”

False : goto Step 13

Step 13: If Step 9 to Step 12 conditions didn’t come True

then Display name of the student, marks of each subjects,

total marks,percentage,and division as “failed”

Step 14: Display option to save data or not or to exit

Step 15: Read choice

Step 16: Switch(choice)

1. Is choice=’y’?

True: i)Open file named as student id of nth student of array in Read

mode

ii) Is file opened/exist?

True :i)change integer percentage of nth student into string

percantage

ii) put the percentage of nth student in the file

False: i) Display error message “no file exist”

ii) continue; goto Step 16 a)(i)

False : goto next Step

1. Is choice =’Y’?

True: goto Step 16 (a)(i)

False:goto next Step

c ) Is choice=’n’

True: call home\_menu() function

False: goto next Step

1. Is choice=’N’

True: call home\_menu() function

False: goto next Step

1. Is choice=’e’

True: terminate the program

False: goto next Step

f) Is choice=any character but ‘y’,’Y’,’n’,’N’,’e’

True: goto Step 14