Faculty of Engineering & Technology
Department of Electrical & Computer Engineering
ENCS3130, LINUX LABORATORY
Project #1 shell scripting

Prepared by:

Saja Asfour   1210737 → sec 4
Shahd Shreteh   1210444 → sec 7

Instructor:

Dr. Abdallatif Abuissa

Date:
11/8/2024

Objective:

Develop a system in shell scripting to efficiently store, manage, and retrieve medical test data for individual patients. This system acts as a basic patient record management system focusing on test results. The system will include features for adding new test results, updating existing records, deleting existing records.

The file content before run the program:

```
1210737:ldl,2001-8,99.92,mg/dL,completed
1300511:hgb,2024-03,13.9,g/dL,pending
1220187:SYSTOLE,2011-9,120.6,mm Hg,Reviewed
1210444:DIASTOLE,1979-5,81,mm Hg,pending
1210737:bgt,2011-3,98.6,mg/dL,Reviewed
1300511:diastole,2014-09,39.8,mm Hg,completed
1220187:Hgb,2021-10,17.3,g/dL,pending
1210444:systole,2009-12,170.89,mm Hg,Reviewed
1210737:Hgb,2011-9,13.8,g/dL,pending
1300511:LDL,2023-11,120,mg/dL,completed
1220187:Hgb,2031-01,15.9,g/dL,completed
1210444:BGT,2012-7,70.32,mg/dL,pending
1210737:systole,2018-07,109.4,mm Hg,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
1220187:BGT,2013-6,99.8,mg/dL,pending
1210444:Hgb,2022-2,50,g/dL,completed
```

Test cases:

Test Add:

Test search by Id for all patient tests:

Test search by Id for all up normal patient tests:

```
**************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
2
1-Retrieve all patient tests
2-Retrieve all up normal patient tests
3-Retrieve all patient tests in a given specific period
4-Retrieve all patient tests based on test status
Enter choice from 1-4 depend on your request:
2
Enter ID you want to search:
1300511
1300511:LDL,2023-11,120,mg/dL,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
**************************************
```

Test search by Id for all patient tests in a given specific period:

```
**************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
2
1-Retrieve all patient tests
2-Retrieve all up normal patient tests
3-Retrieve all patient tests in a given specific period
4-Retrieve all patient tests based on test status
Enter choice from 1-4 depend on your request:
3
Enter ID you want to search:
1300511
Please Enter the specific period
from year-month :
2014-8
Please Enter the specific period
to year-month :
2023-12
1300511:diastole,2014-09,39.8,mm Hg,completed
1300511:LDL,2023-11,120,mg/dL,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
**************************************
```

3

Test search by Id for all patient tests based on test status:

```
*************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
2
1-Retrieve all patient tests
2-Retrieve all up normal patient tests
3-Retrieve all patient tests in a given specific period
4-Retrieve all patient tests based on test status
Enter choice from 1-4 depend on your request:
4
Enter ID you want to search:
1300511
Enter status you want to search by Id based on your choice:
pending
1300511:hgb,2024-03,13.9,g/dL,pending
1300511:systole,2007-11,103,mm hg,pending
*************************************
```

Test Searching for up normal tests:

```
*************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
3
Enter Test Name you want to search:
hgb
1220187:Hgb,2021-10,17.3,g/dL,pending
1210737:Hgb,2011-9,13.8,g/dL,pending
1210444:Hgb,2022-2,50,g/dL,completed
*************************************
```

Test Average test value:

```
**************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
4
The Avg of LDL = 109.96
The Avg of Hgb = 22.18
The Avg of BGT = 74.90
The Avg of systole = 125.97
The Avg of diastole = 60.40
**************************************
```

Test Update an existing test result

```
**************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
5
1210737:ldl,2001-8,99.92,mg/dL,completed
1300511:hgb,2024-03,13.9,g/dL,pending
1220187:SYSTOLE,2011-9,120.6,mm Hg,Reviewed
1210444:DIASTOLE,1979-5,81,mm Hg,pending
1210737:bgt,2011-3,98.6,mg/dL,Reviewed
1300511:diastole,2014-09,39.8,mm Hg,completed
1220187:Hgb,2021-10,17.3,g/dL,pending
1210444:systole,2009-12,170.89,mm Hg,Reviewed
1210737:Hgb,2011-9,13.8,g/dL,pending
1300511:LDL,2023-11,120,mg/dL,completed
1220187:Hgb,2031-01,15.9,g/dL,completed
1210444:BGT,2012-7,70.32,mg/dL,pending
1210737:systole,2018-07,109.4,mm Hg,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
1220187:BGT,2013-6,99.8,mg/dL,pending
1210444:Hgb,2022-2,50,g/dL,completed
1300511:systole,2007-11,103,mm hg,pending
 Enter the whole test you want to update
1210737:bgt,2011-3,98.6,mg/dL,Reviewed
-Enter patiant ID is 7 digit without character
1210737
-Enter Test Name from this list only: Hgb, LDL, BGT, systole, diastole
Hgb
-Enter year in range from 1950 to 2050 without char
2017
-Enter month with range from 1 to 12 without char
7
Enter result in float represantiation without char:
70.4
Enter unit from this: g/dl , mg/dl , mm Hg
g/dl
Enter status which is one of the following : Pending, Completed, Reviewed
completed
 The test was updated!
**************************************
```

Test delete an existing test result

```
*************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
6
1210737:ldl,2001-8,99.92,mg/dL,completed
1300511:hgb,2024-03,13.9,g/dL,pending
1220187:SYSTOLE,2011-9,120.6,mm Hg,Reviewed
1210444:DIASTOLE,1979-5,81,mm Hg,pending
1300511:diastole,2014-09,39.8,mm Hg,completed
1220187:Hgb,2021-10,17.3,g/dL,pending
1210444:systole,2009-12,170.89,mm Hg,Reviewed
1210737:Hgb,2011-9,13.8,g/dL,pending
1300511:LDL,2023-11,120,mg/dL,completed
1220187:Hgb,2031-01,15.9,g/dL,completed
1210444:BGT,2012-7,70.32,mg/dL,pending
1210737:systole,2018-07,109.4,mm Hg,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
1220187:BGT,2013-6,99.8,mg/dL,pending
1210444:Hgb,2022-2,50,g/dL,completed
1300511:systole,2007-11,103,mm hg,pending
1210737:Hgb,2017-7,70.4,g/dl,completed

Enter the whole test you want to delete
1210444:BGT,2012-7,70.32,mg/dL,pending
 The test was deleted!
*************************************
```

Test exit

```
*************************************
 Welcome to our medical test system !!!
1- Add a new medical testrecord
2- Search for a test by patient ID
3- Searching for up normal tests
4- Average test value
5-Update an existing test result
6-Delete an existing test
7-exit
Enter number from 1-7 based on your request :
7
Thanks for using our system!!
shahd@ubuntu:~/Downloads/proDS
```

6

The file content after run the program:

```
1210737:ldl,2001-8,99.92,mg/dL,completed
1300511:hgb,2024-03,13.9,g/dL,pending
1220187:SYSTOLE,2011-9,120.6,mm Hg,Reviewed
1210444:DIASTOLE,1979-5,81,mm Hg,pending
1300511:diastole,2014-09,39.8,mm Hg,completed
1220187:Hgb,2021-10,17.3,g/dL,pending
1210444:systole,2009-12,170.89,mm Hg,Reviewed
1210737:Hgb,2011-9,13.8,g/dL,pending
1300511:LDL,2023-11,120,mg/dL,completed
1220187:Hgb,2031-01,15.9,g/dL,completed
1210737:systole,2018-07,109.4,mm Hg,completed
1300511:bgt,2021-04,30.9,mg/dL,Reviewed
1220187:BGT,2013-6,99.8,mg/dL,pending
1210444:Hgb,2022-2,50,g/dL,completed
1300511:systole,2007-11,103,mm hg,pending
1210737:Hgb,2017-7,70.4,g/dl,completed
```