Faculty of Engineering and Technology
Electrical and Computer Engineering Department

ENCS313

Report

Shell Script Project

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Some Test Cases:

-first option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
1
please enter the medical record you want to add , use the format as this example (1300511: LDL, 2024-03, 110, mg/dL, pending)
1342133: diastole, 2024-07, 11, mm Hg, pending
The file is:
1300500: RBC, 2024-03, 19, mg/dL, completed
1300511: LDL, 2024-03, 110, mg/dL, pending
1342133: diastole, 2024-07, 11, mm Hg, pending
```

At first, we added a new medical test to the file and as shown the operation was successfully done.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
1
please enter the medical record you want to add , use the format as this example (1300511: LDL, 2024-03, 110, mg/dL, pending)
1300511: LD, 2024-03, 110, mg/dL, pending
Test does not exist
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
1
please enter the medical record you want to add , use the format as this example (1300511: LDL, 2024-03, 110, mg/dL, pending)
13as134 LDL, 2024-03, 110, mg/dL, pending
Invalid ID format
```

Then, we tried inserting a non-existing test and an invalid ID which printed an error message to the user.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
1
please enter the medical record you want to add , use the format as this example (1300511: LDL, 2024-03, 110, mg/dL, pending)
1300511: LDL, 2024-13, 110, mg/dL, pending
Invalid date format
```

Finally, we tried an invalid month which also printed an error message to the user.

-second option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
2
Please enter the patient ID you want to search:
12345678
invalid ID
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
2
Please enter the patient ID you want to search:
1300511
1300511: LDL, 2024-03, 110, mg/dL, pending
```

for the second option we initially tried searching for an ID that does not exist which printed an error message, then we searched for a valid ID number and it printed the tests successfully.

-Third option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
3
Please enter the patient ID you want to search:
1300500
1300500: Hgb, 2024-03, 19, mg/dL, completed
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
3
Please enter the patient ID you want to search:
123456
invalid ID
```

As shown in the picture the third case works successfully for both cases whether the ID is valid or not.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
3
Please enter the patient ID you want to search:
1342133
no up normal test
```

We also handled the case where there are no up normal tests.

-Fourth option:

```
1300500: LDL, 2024-06, 67, mg/dL, completed
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
4
Please enter the patient ID you want to search:
1300500
please enter the first date in fixed format like YYYY-MM<<Ensure that the earlier date is entered first>>:
2024-67
Invalid month
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
4
Please enter the patient ID you want to search:
1300500
please enter the first date in fixed format like YYYY-MM<<Ensure that the earlier date is entered first>>:
1234
Invalid date format
```

At first, we tried two cases where the month is invalid and the date format is wrong which both displayed an error message to the user.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
4
Please enter the patient ID you want to search:
1300500
please enter the first date in fixed format like YYYY-MM<<Ensure that the earlier date is entered first>>:
2024-01
please enter the second date fixed format like YYYY-MM which Y&M is numbers:
2024-07
1300500: LDL, 2024-06, 67, mg/dL, completed
```

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
4
Please enter the patient ID you want to search:
1300500
please enter the first date in fixed format like YYYY-MM<<Ensure that the earlier date is entered first>>:
2026-03
please enter the second date fixed format like YYYY-MM which Y&M is numbers:
2026-05
no tests exist in the given period.
```

Then, we searched for a test in a valid period which displayed the correct output. Finally, we tried a period with no tests which also displayed a correct output.

- Fifth option:

```
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
5
Please enter the patient ID you want to search:
1300511
please enter the status:
completed
no tests exist .
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
5
Please enter the patient ID you want to search:
1300500
please enter the status:
completed
1300500: LDL, 2024-06, 67, mg/dL, completed
```

As shown in the picture, the fifth case works successfully for both scenarios, whether the status is valid or not.

-sixth option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
6
Please enter the test name you want to search:
FDG
invalid test name
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
6
Please enter the test name you want to search:
LDL
Up normal patient test:
1300511: LDL, 2024-03, 110, mg/dL, pending
```

For this case we initially tried inserting an invalid test name which displayed an error message.
Then, we tried a valid test name which printed the right output.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
6
Please enter the test name you want to search:
diastole
no up normal test
```

Finally, we tried a test with no up normal values which also displayed a correct output.

-seventh option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
7
The avarge in  Hemoglobin (Hgb) between 13.8 and 17.2 is:
15.50
The avarge in  Blood Glucose Test (BGT) between 70 and 99 is:
84.50
Only one value provide in LDL Cholesterol Low-Density Lipoprotein (LDL) which is less the 100
Only one value provide in Systolic Blood Pressure (systole) which is less the 120
Only one value provide in Diastolic Blood Pressure (diastole) which is less the 80
```

As shown in the picture the seventh case displays the average value of each test correctly also considering tests with a single value.

-eight option:

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
8
please enter the ID:
12
The ID doesn't exist
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
8
please enter the ID:
1300511
please enter the test name you want to change the value of
LDL
please enter the new value:
18
1300500: Hgb, 2024-03, 19, mg/dL, completed
1300511: LDL, 2024-03, 18, mg/dL, pending
1342133: diastole, 2024-07, 11, mm Hg, pending
```

For the final case we tried an invalid ID which displayed an error message to the user.

Then, we successfully updated the value of an existing test, as shown in the picture.

```
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Exist.
8
please enter the ID:
1300511
please enter the test name you want to change the value of
AS
The test doesn't exist
```

Lastly, we tried a test name that doesn't exist which also displayed an error message to the user.

-ninth option:

```
codebind@codebind:~/Desktop/managementSystem$ cat medicalRecord.txt
1300511: LDL, 2024-08, 110, mg/dL, pending
1300500: LDL, 2024-06, 67, mg/dL, completed
1300500: LDL, 2023-06, 67, mg/dL, completed
1300500: LDL, 2023-06, 67, mg/dL, completed
1300500: RBC, 2022-06, 67, mg/dL, completed
codebind@codebind:~/Desktop/managementSystem$ ./script.sh
select your option
1. Add a new medical test record.
2. Search for a test by patient ID,Retrieve all patient test.
3. Search for a test by patient ID, Retrieve all up normal patient tests.
4. Search for a test by patient ID Retrieve all patient tests in a given specific period
5. Search for a test by patient ID, Retrieve all patient tests based on test status
6. Searching for up normal tests.
7. Average test value.
8. Update an existing test result.
9. Delete a test.
10.Exit.
9
1300511: LDL, 2024-08, 110, mg/dL, pending
1300500: LDL, 2024-06, 67, mg/dL, completed
```

As shown in the picture, the nineth option deleted all the outdated tests (older than a year) and deleted the test RBC since it's not in the medical tests file.