**Problem analysis and algorithm design**

* The problem at hand is creating a program that can manage a pharmacy or a medical management store.
* To make out task easier we have divided the task into smaller functions.
* But before that we assigned some global variables, vectors and structs.
* ***Declare string A\_username(store the admin user name)***
* ***Declare string A\_password(store the admin password)***
* ***Declare string u\_username(store user’s user name)***
* ***Declare string u\_password(store user’s password)***
* ***Declare struct sale with members: buyer,sold,name,date***
* ***Declare struct drug with members:name,quantity,batch,i\_price,s\_price,expiry and sold***
* **Declare a vector with type drug (**to store multiple drug information)
* **Declare a vector with type sale (**to store multiple sales information)
* **Declare a vector with type sale(**to store expire date)

**Admin\_login function**

* This function asks for user name and password to access the program

***Steps***

1. ***Display enter your user name***
2. ***Declare string user\_trial***
3. ***Declare string pass\_trial***
4. ***Read user\_trial***
5. ***If(A\_username == user\_trial) goto line 14***
6. ***Else***
7. ***I =3***
8. ***If(I > 0) go to line 9***
9. ***I--***
10. ***Display incorrect user name***
11. ***Display you have i-1 chance***
12. ***Read user\_trial***
13. ***If(A\_username == user\_trial) go to line 14***
14. ***Display correct***
15. ***Exit loop***
16. ***Else if(i==2)***
17. ***Terminate the program***
18. ***Display enter your password***
19. ***Read pass\_trial***
20. ***If(A\_password == pass\_trial) goto line 29***
21. ***Else***
22. ***I =3***
23. ***If(I > 0) go to line 9***
24. ***I--***
25. ***Display incorrect password***
26. ***Display you have i-1 chance***
27. ***Read pass\_trial***
28. ***If(A\_password == pass\_trial) go to line 29***
29. ***Display correct***
30. ***Exit loop***
31. ***Else if(i==2)***
32. ***Terminate the program***

***User login function***

1. ***Display enter your user name***
2. ***Declare string user\_trial***
3. ***Declare string pass\_trial***
4. ***Read user\_trial***
5. ***If(U\_username == user\_trial) goto line 14***
6. ***Else***
7. ***I =3***
8. ***If(I > 0) go to line 9***
9. ***I--***
10. ***Display incorrect user name***
11. ***Display you have i-1 chance***
12. ***Read user\_trial***
13. ***If(U\_username == user\_trial) go to line 14***
14. ***Display correct***
15. ***Exit loop***
16. ***Else if(i==2)***
17. ***Terminate the program***
18. ***Display enter your password***
19. ***Read pass\_trial***
20. ***If(U\_password == pass\_trial) goto line 29***
21. ***Else***
22. ***I =3***
23. ***If(I > 0) go to line 9***
24. ***I--***
25. ***Display incorrect password***
26. ***Display you have i-1 chance***
27. ***Read pass\_trial***
28. ***If(U\_password == pass\_trial) go to line 29***
29. ***Display correct***
30. ***Exit loop***
31. ***Else if(i==2)***
32. ***Terminate***

***Data function***

* This function will store all the information about the drugs.

***Steps***

1. ***Declare variables drug D.***
2. ***D.name = “name of drug”***
3. ***D.quantity = “quantity of drug”***
4. ***D.batch= “batch number of drug”***
5. ***D.i\_price = “the cost of the drug”***
6. ***D.s\_price = “price of the drug”***
7. ***D.expiry= “expire date of the drug”***
8. ***D.sold = “amout sold”***
9. ***Drugs.push\_back(D)...*** *storing the data in our global vector*
10. ***Repeat the process based on the number of drugs***

***Sale\_data function***

* ***This function will store sales data for the drugs***

***Steps***

1. ***Declare variable sale s***
2. ***S.name = “name of the sold drug”***
3. ***S.buyer = “name of the buyer”***
4. ***S.sold = “the amont sold”***
5. ***S.date = “date of transaction”***
6. ***Sales.push\_back(s) …****storing the data in our sales global vector*
7. ***Repeat based on the number of sales***

***Expire\_data function***

* ***This function will store only the expire date of the drugs.***
* ***It will be useful later***

***Steps***

1. ***Call data()***
2. ***I =0***
3. ***If(I < sizeof(drugs)) goto line 4***
4. ***Expire.push\_back(drugs[i].expiry)***
5. ***I++***
6. ***Else goto line 6***
7. ***Break***

***Display\_all function***

* ***this function will display all the drug information***

***steps***

1. ***call data()***
2. ***I = 0***
3. ***If(I < sizeof(drugs)***
4. ***Print drugs[i].name***
5. ***Print drugs[i].quantity***
6. ***Print drugs[i].batch***
7. ***Print drugs[i].i\_price***
8. ***Print drugs[i].s\_price***
9. ***Print drugs[i].expiry***
10. ***Print drugs[i].sold***
11. ***I++***
12. ***Else goto line 13***
13. ***Break***

***Insert\_new function***

* ***This function inserts new drug information***

***Steps***

1. ***Call data()***
2. ***Declare int n***
3. ***Display how many drugs would you like to record***
4. ***Read n***
5. ***Declare drug d[n]***
6. ***I = 0***
7. ***If(I < n) goto line 8***
8. ***Display enter the name***
9. ***Read d[i].name***
10. ***Display enter the qunatity***
11. ***Read d[i].quantity***
12. ***Display enter the batch number***
13. ***Read d[i].batch***
14. ***Display enter the expire date***
15. ***Read d[i].expiry***
16. ***Display enter the incoming price***
17. ***Read d[i].i\_price***
18. ***Display enter the selling price***
19. ***Read d[i].s\_price***
20. ***Display enter the amount sold***
21. ***Read d[i].sold***
22. ***I++***
23. ***Else goto line 24***
24. ***Break***
25. ***I = 0***
26. ***If(I < n)***
27. ***Drugs.push\_back(d[i])***
28. ***Else***
29. ***Break***

***Delete\_drug function***

* ***Steps***

1. ***Call data()***
2. ***Declare string name***
3. ***Display enter the name of the drug***
4. ***Read name***
5. ***I = 0***
6. ***If(I < sizeof(drugs) && drugs[i].name = name goto line 7***
7. ***Drugs.erase(drugs.begin() + (i+1)***
8. ***I++***
9. ***else***
10. ***display the drugs has been successfully deleted***

***low\_quantity function***

***steps***

1. ***call data()***
2. ***call sale\_data()***
3. ***I = 0***
4. ***If(I < size) && drugs[i].quantity < 10 goto line 6***
5. ***Display drugs[i].name***
6. ***I++***
7. ***Else goto line 9***
8. ***Break***

***Update function***

***Steps***

1. ***Call data()***
2. ***Declare string name***
3. ***Read name***
4. ***Display what would you like to update***
5. ***Display 1.name***
6. ***Display 2.quantity***
7. ***Display 3.batch number***
8. ***Display 4.incoming price***
9. ***Display 5.selling price***
10. ***Display 6.quantity sold***
11. ***Declare choice***
12. ***Read choice***
13. ***Switch(choice)***
14. ***Case 1:***
15. ***Display enter the new name***
16. ***Declare string c***
17. ***Read c***
18. ***Drugs.at(i).name = c***
19. ***Break***
20. ***Case 2:***
21. ***Display enter the new quantity***
22. ***Declare int c***
23. ***Read c***
24. ***Drugs.at(i).quantity = c***
25. ***Break***
26. ***Case 3:***
27. ***Display enter the new batch***
28. ***Declare int c***
29. ***Read c***
30. ***Drugs.at(i).batch = c***
31. ***Break***
32. ***Case 4:***
33. ***Display enter the new incoming price***
34. ***Declare int c***
35. ***Read c***
36. ***Drugs.at(i).i\_price = c***
37. ***Break***
38. ***Case 5:***
39. ***Display enter the new selling price***
40. ***Declare int c***
41. ***Read c***
42. ***Drugs.at(i).s\_price = c***
43. ***Break***
44. ***Case 6:***
45. ***Display enter the new amount sold***
46. ***Declare int c***
47. ***Read c***
48. ***Drugs.at(i).sold = c***
49. ***Break***

***Search function***

***Steps***

1. ***Display choose 1 option below***
2. ***Display 1.by name***
3. ***Display 2.by batch number***
4. ***Declare choice***
5. ***Read choice***
6. ***Switch(choice)***
7. ***Case 1:***
8. ***Declare string name***
9. ***Read name***
10. ***If(name in drugs == true) goto line 11***
11. ***Display drug found***
12. ***Else***
13. ***Drug not found***
14. ***Break***
15. ***Case 2:***
16. ***Declare int batch***
17. ***Read batch***
18. ***If(batch in drugs == true) goto line 11***
19. ***Display drug found***
20. ***Else***
21. ***Drug not found***
22. ***Break***

***Expiry\_notification function***

***Steps***

1. ***Call data()***
2. ***Call expire\_data()***
3. ***Time\_t t= time(NULL)***
4. ***Tm \*tptr = localtime(&t)***
5. ***Declare string day with size = sizeof(drugs)***
6. ***Declare string month with size = sizeof(drugs)***
7. ***Declare string year with size = sizeof(drugs)***
8. ***Declare int i\_day with size = sizeof(drugs)***
9. ***Declare int i\_month with size = sizeof(drugs)***
10. ***Declare int i\_year with size = sizeof(drugs)***
11. ***Declare int dr with size = sizeof(drugs)***
12. ***Declare int mr with size = sizeof(drugs)***
13. ***Declare int yr with size = sizeof(drugs)***
14. ***Int c\_day = (tptr->tm\_mday);***
15. ***Int c\_month = (tptr->tm\_mon) + 1;***
16. ***Int c\_day = (tptr->tm\_year) +1990;***
17. ***I = 0***
18. ***If(I <sizeof(expire) goto line 19***
19. ***Stringstream expire\_date(expire[i])***
20. ***Getline(expire\_date,day[i],’/’)***
21. ***Getline(expire\_date,month[i],’/’)***
22. ***Getline(expire\_date,year[i],’/n’)***
23. ***I\_day[i] = stoi(day[i])***
24. ***I\_month[i] = stoi(month[i])***
25. ***I\_year[i] = stoi(year[i])***
26. ***I++***
27. ***Else***
28. ***break***
29. ***I = 0***
30. ***If(I < sizeof(drugs)) goto line 31***
31. ***Dr[i] =i\_day[i] – c\_day***
32. ***mr[i] =i\_month[i] – c\_month***
33. ***yr[i] =i\_year[i] – c\_year***
34. ***if(yr[i] <= 0 goto line 36***
35. ***display less than a year remaining***
36. ***else if(yr[i] > 0) goto line 37***
37. ***display more than a year remaining***
38. ***i++***
39. ***else***
40. ***break***

***total sales function***

***steps***

1. ***call data***
2. ***declare float total = 0***
3. ***I = 0***
4. ***If(I <sizeof(drugs) goto line 5***
5. ***Total = total + drugs[i].sold***
6. ***I++***
7. ***Else***
8. ***Break***
9. ***Displat the total amount sold is total***

***Profit function***

***Steps***

1. ***Call data()***
2. ***Declare float profit***
3. ***Declare float t\_profit***
4. ***I = 0***
5. ***If(I < size0f(drugs)***
6. ***Profit = drugs[i].sold \*(drugs[i].s\_price – drugs[i].I\_price)***
7. ***T\_profit = profit +t\_profit***
8. ***Profit = 0***
9. ***I++***
10. ***Else***
11. ***Break***
12. ***The total profit is t\_profit***

***Stastical report***

***Steps***

1. ***Call data***
2. ***Declare float revenue***
3. ***Declare float profit***
4. ***Declare float t\_revenue = 0***
5. ***Declare float t\_profit = 0***
6. ***I= 0***
7. ***If(I < sizeof(drugs)***
8. ***revenue = drugs[i].sold \*(drugs[i].s\_price )***
9. ***T\_revenue = revenue +t\_revenue***
10. ***revenue = 0***
11. ***Profit = drugs[i].sold \*(drugs[i].s\_price – drugs[i].I\_price)***
12. ***T\_profit = profit +t\_profit***
13. ***Profit = 0***
14. ***I++***
15. ***Else***
16. ***Break***
17. ***The total revenue is t\_revenue***
18. ***The total profit is t\_profit***

***Display sales function***

***Steps***

1. ***Call sale\_data***
2. ***I = 0***
3. ***If (I < sizeof(sales) goto line 4***
4. ***Display name***
5. ***Display sales[i].sold***
6. ***Display sales[i].buyer***
7. ***Display sales[i].date***
8. ***I++***
9. ***Else***
10. ***break***

***add sale function***

***steps***

1. ***call data();***
2. ***call sale\_data()***
3. ***declare sale s***
4. ***display enter the name of the buyer***
5. ***read s.buyer***
6. ***display enter the name of the drug***
7. ***read s.name***
8. ***display enter the amount sold***
9. ***read s.sold***
10. ***display enter the date***
11. ***read s.date***
12. ***sales.push\_back(s)***

***change admin function***

***steps***

1. ***call admin\_login()***
2. ***declare string n\_user,n\_password***
3. ***declare pointer of type string ptr1 = &A\_username***
4. ***declare pointer of type string ptr2 = &A\_password***
5. ***display enter the new username***
6. ***read n\_user***
7. ***\*ptr1 =n\_user***
8. ***display enter the new password***
9. ***read n\_password***
10. ***\*ptr2=n\_password***

***change user function***

***steps***

1. ***call user\_login()***
2. ***declare string n\_user,n\_password***
3. ***declare pointer of type string ptr1 = &U\_username***
4. ***declare pointer of type string ptr2 = &U\_password***
5. ***display enter the new username***
6. ***read n\_user***
7. ***\*ptr1 =n\_user***
8. ***display enter the new password***
9. ***read n\_password***
10. ***\*ptr2=n\_password***