CODE

25 June, 2021

```
2 //
                                         Hospital Management System
4 #include <iostream >
5 #include <fstream >
6 #include < iomanip >
7 #include < string >
8 #include < stdlib.h>
9 #include < stdio.h>
using namespace std;
12
//function declarations
14 // ----
void clear_screen();
void menu();
int chooseMain();
void getDoctorDatabase();
void getPatientDatabase();
void getBedDatabase();
void getPatientReport();
23
^{24} //the password class
25 // -----
26
27 class password {
28 private:
   string pass;
29
30 public:
31
32
    void getPassword() {
     cout << "\n\t\t\t\t\t\tChoose a password for your system: ";</pre>
33
    cin >> pass;
}
34
35
36
    int verifyPassword()
37
38
     string x;
cout << "\n\t\t\t\t\tEnter the password: ";</pre>
39
40
      cin >> x;
41
     if (x == pass)
42
43
        return 1;
      else
44
        return 0;
45
46
47
    void passwordProtect() {
48
     int veri = verifyPassword();
49
50
51
      if (veri == 1) {
        cout << "\n\t\t\t\t\t\tAccess Granted!" << endl;</pre>
52
53
54
55
       cout << "\n\t\t\t\t\tAccess Denied!\n\n\t\t\t\tSystem will shut down</pre>
56
57
              \n\n\t\t\t\t\tPlease come back again." << endl;</pre>
        exit(0);
58
59
    }
60
61 };
63 // password class ends
64 //
66
67
69 //the doctor class
```

```
70 // -----
72 class doctor {
73 private:
    string d_fname, d_lname;
    int d_ID, d_age, experience, d_totalno;
75
    string qual, d_city;
76
    string getSpec();
78 public:
79
    friend void addDoc();
     friend void editDoc(doctor &docobj);
80
    friend void displayDoc();
81
    friend void deleteDoc();
    friend void dispDatabase();
83
    friend void numberofDocs();
84
   friend void getDoctorDatabase();
86 };
87 // doctor class ends here
                               _____
88 // ---
89
91
92
93 // Doctor Speciality
94 //----
95 string doctor::getSpec() {
    string sp;
96
     cout << "\t\t\t\t\t\t\t1.GENERAL_MEDICINE" << endl;</pre>
97
    cout << "\t\t\t\t\t\t\t\t2.NEUROLOGY" << endl;</pre>
     cout << "\t\t\t\t\t\t\t\t3.ONCOLOGY" << endl;</pre>
99
     cout << "\t\t\t\t\t\t\t\t4.HAEMATOLOGY" << endl;</pre>
100
     cout << "\t\t\t\t\t\t\t\t5.GASTROENTEROLOGY" << endl;</pre>
101
     cout << "\t\t\t\t\t\t\t6.GYNAECOLOGY " << endl;</pre>
102
     cout << endl;</pre>
103
     int s;
104
     cout << "\t\t\t\t\t\t";</pre>
105
106
     cin >> s;
107
    switch (s) {
108
109
     case 1: {
     sp = "GENERAL_MEDICINE";
110
111
      break;
112
     case 2: {
113
     sp = "NEUROLOGY";
114
      break;
116
     case 3: {
117
      sp = "ONCOLOGY";
118
119
       break;
120
     case 4: {
121
      sp = "HAEMATOLOGY";
122
      break;
123
124
125
     case 5: {
     sp = "GASTROENTEROLOGY";
126
127
      break;
128
     case 6: {
129
     sp = "GYNAECOLOGY ";
130
      break;
131
132
    default: {
133
      cout << "\n\t\t\t\t\tCome on!Enter a valid option." << endl;</pre>
134
135
136
137
138
     }
139
    return sp;
140
141 }
142 // Doctor Speciality Ends
```

```
143 //----
144
145
146
147
148
149 //the Adding New Doctor function
150 //-----
151
void addDoc() {
    doctor d;
    cout << "\n\t\t\t\tFill up the following details" << endl;</pre>
154
    cout << "\t\t---
                                                                  ----" << endl;
155
    cout << "\n\t\t\t\t\t\tID: ";</pre>
156
     cin >> d.d_ID;
157
     cout << "\n\t\t\t\t\tFirst Name: ";</pre>
158
     cin >> d.d_fname;
159
     cout << "\n\t\t\t\t\t\tLast Name: ";</pre>
160
     cin >> d.d_lname;
161
     cout << "\n\t\t\t\t\t\tAge: ";</pre>
162
163
     cin >> d.d_age;
     164
165
         166
     int q;
     cout << "\t\t\t\t\t\t";</pre>
167
168
     cin >> q;
     if (q == 1)
  d.qual = "MBBS";
169
170
     else d.qual = "MD";
171
     cout << "\n\t\t\t\t\t\tChoose Specialization among the following: " << endl;;</pre>
172
     string spec = d.getSpec();
173
     cout << "\n\t\t\t\t\tExperience (in Years): ";</pre>
174
     cin >> d.experience;
175
     cout << "\n\t\t\t\t\t\tCity: ";</pre>
176
     cin >> d.d_city;
177
178
179
180
     clear_screen();
     fstream fileObj;
181
182
     fileObj.open("doctor.txt", ios::app );
     fileObj.seekp (0, ios::end);
183
184
     fileObj << d.d_ID << endl << d.d_fname << endl << d.d_lname <<
             endl << d.d_age << endl << d.qual << endl << spec << endl <<</pre>
185
             d.experience << endl << d.d_city << endl;</pre>
186
187
     fileObj.close();
188
189
190
     cout << "\n\t\t\t\t\t\New Doctor profile created successfully!" << endl << endl << endl</pre>
191
192
193
     cout << "\n\t\t\t\t\tEnter 1 to return to Doctor Database\n\t\t\t\tEnter 2 to Exit."</pre>
194
       << end1;
     cout << "\t\t\t\t\t";</pre>
195
     int c;
196
     cin >> c;
197
     if (c == 1) {
198
      clear_screen();
199
      getDoctorDatabase();
200
201
202
     else
203
      exit(0);
204
205
206 }
207
208 // Add Doctor Functions End Here
209 //---
210
212
213
```

```
214
215
216 // Edit Doctor Function Starts Here
217 //--
void editDoc(doctor &docobj)
220 {
221
222
     string x;
     cout << "\n\n\t\t\t\t\tEnter the ID of the Doctor whose profile you want to Edit: " ;</pre>
223
     cin >> x;
224
     fstream fileObj("doctor.txt");
225
     fileObj.seekg(0);
226
227
     int age, exp, count = 0;
228
     string ID, fname, lname, ci, qua, spe;
229
     while (fileObj >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
230
231
232
       if (ID == x) {
         cout << "\n\n\t\t\t\t\t1.ID:" << ID << endl</pre>
233
               << "\t\t\t\t\t2.First Name:" << fname << endl
234
               << "\t\t\t\t\t3.Last Name:" << lname << endl
235
              << "\t\t\t\t\t4.Age:" << age << endl
236
               << "\t\t\t\t\t5.Qualification:" << qua << endl
237
              << "\t\t\t\t\t6.Specialization:" << spe << endl
238
              << "\t\t\t\t\t7.Experience:" << exp << endl
239
               << "\t\t\t\t\t8.City:" << ci << endl << endl;
240
         count++:
241
242
         break;
243
244
245
     fileObj.close();
246
247
248
249
     if (count == 0) {
250
       cout << "\n\t\t\t\t\t\t\t\no matching records found!" << endl;</pre>
251
       252
        to Exit." << endl;
       cout << "\t\t\t\t\t\t";</pre>
253
254
       int c;
255
       cin >> c;
       if (c == 1) {
256
        clear_screen();
257
         getDoctorDatabase();
258
259
260
261
       else
262
         exit(0);
263
264
265
266
     fstream file("doctor.txt");
267
     file.seekg (0, ios::beg);
268
     file.seekg(0);
269
270
     string line;
     ofstream tempObj;
271
     tempObj.open("copy.txt");
272
273
     tempObj.seekp(0);
     int skip = 0;
int age1, exp1;
274
275
     string fname1, lname1, ci1, qua1, spe1;
276
     file.seekg(0); file.seekg(0, ios::cur);
277
278
279
     while (file >> line >> fname1 >> lname1 >> age1 >> qua1 >> spe1 >> exp1 >> ci1)
280
281
       if (line != x) {
282
         tempObj << line << endl << fname1 << endl
283
                  << lname1 << endl << age1 << endl << qua1 << endl
                  << spe1 << endl << exp1 << endl << ci1 << endl;
285
```

```
286
287
288
                   file.close();
289
                    tempObj.close();
290
                   remove("doctor.txt");
291
                   int result;
292
                   char oldname[] = "copy.txt";
char newname[] = "doctor.txt";
293
294
295
                   result = rename( oldname , newname );
                    int edit;
296
                   cout << "\t\t\t\tEnter number corresponding to the Field you want to Edit: ";</pre>
297
                    cin >> edit;
298
                   cout << endl;</pre>
299
                   switch (edit)
300
301
302
                   case 1: {
                          cout << "\t\t\t\t\tID :" ;
303
                          cin >> ID;
304
305
                         break;
306
                   case 2: {
307
                          cout << "\t\t\t\t\tFirst Name: ";</pre>
308
                           cin >> fname;
309
310
311
                          break;
312
                   case 3: {
313
314
                         cout << "\t\t\t\t\tLast Name: ";</pre>
                          cin >> lname;
315
316
                         break;
317
                   }
318
319
                   case 4: {
                        cout << "\t\t\t\t\tAge: ";</pre>
320
                           cin >> age;
321
322
                           break;
323
                   case 5: {
324
                           \textbf{cout} ~<<~ \text{"} \\ \text{t} \\ \text{t} \\ \text{t} \\ \text{t} \\ \text{tht} \\ \text{t} \\ \text{tht} \\ \text{t} \\ \text{t}
325
                                             1.MBBS\n\t\t\t\t\t\t\t2.MD" << endl;</pre>
326
327
                           cout << "\t\t\t\t\t";</pre>
                           int q;
328
                           cin >> q;
329
330
                           if (q == 1) {
                                qua = "MBBS";
331
332
333
334
                          qua = "MD";
}
                          else {
335
336
337
338
                          break;
339
                   case 6: {
340
341
                          clear_screen();
                           spe = docobj.getSpec();
342
343
                          break;
344
                   case 7: {
345
                         cout << "\t\t\t\t\tExperience: ";</pre>
346
                           cin >> exp;
347
348
                           break;
                   }
349
                   case 8: {
350
                          cout << "\t\t\t\t\tCity: ";</pre>
351
352
                           cin >> ci;
353
                          break;
                   }
354
355
                     cout << "\t\t\t\t\t\tInvalid Input!" << endl;</pre>
356
                           to Exit." << endl;
```

```
cout << "\t\t\t\t\t\t";</pre>
358
359
       int c;
       cin >> c;
360
       if (c == 1) {
361
         clear_screen();
         getDoctorDatabase();
363
364
365
366
       else
367
        exit(0);
368
     }
369
370
     clear_screen();
371
372
     cout << "\t\t\t\t-----" << endl << endl;</pre>
373
     cout << "\n\n\t\t\t\t\t1.ID:" << ID << endl << "\t\t\t\t\t2.First Name:" << fname <<
  endl << "\t\t\t\t\t\t4.Age:" << age <<</pre>
374
       endl << "\t\t\t\t\t\t5.Qualification:" << qua << endl << "\t\t\t\t\t6.Specialization:"</pre>
        << spe << endl << "\t\t\t\t\t\t\t.Experience:" << exp << endl << "\t\t\t\t\t\t.Experience:"
       << ci << endl << endl;
375
     fstream newObj;
376
     newObj.open("doctor.txt", ios::app);
377
     newObj.seekp (0, ios::end);
378
     \tt new0bj \ << \ ID \ << \ end1 \ << \ fname \ << \ end1 \ << \ lname
379
             << endl << age << endl << qua << endl << spe
380
             << endl << exp << endl << ci << endl;
381
     newObj.close();
382
383
384
385
     cout << "\t\t\t" << "----" << endl;
386
387
     \texttt{cout} << "\n\n\t\t\t\tEnter 1 to return to Doctor Database\n\n\t\t\t\tEnter 2 to
388
      Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t";</pre>
390
     int c;
391
     cin >> c;
392
     if (c == 1) {
      clear_screen();
393
394
       getDoctorDatabase();
395
396
    else
397
      exit(0);
398
399 }
400
401
402 // Edit Doctor Functions Ends Here
403 //----
404
405
406
407
408 //the Display Doctor Function
409 //---
410 void displayDoc()
411 {
412
413
     cout << "\n\n\t\t\t\t\tEnter the ID of the Doctor whose profile you want to Edit: " ;</pre>
     cin >> x;
414
     ifstream file; file.open("doctor.txt", ios::out | ios::in);
415
416
     file.seekg(0);
417
     int ID, age, exp, count = 0;
418
419
     string fname, lname, ci, qua, spe;
420
421
     while (file >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
422
423
       if (ID == x)
425 {
```

```
cout << "\n\n\t\t\t\t\t1.ID:" << ID << endl</pre>
426
                << "\t\t\t\t\t\t2.First Name:" << fname << endl
<< "\t\t\t\t\t3.Last Name:" << lname << endl</pre>
427
428
                << "\t\t\t\t\t4.Age:" << age << endl
429
                << "\t\t\t\t\t5.Qualification:" << qua << endl
<< "\t\t\t\t\t6.Specialization:" << spe << endl</pre>
431
                << "\t\t\t\t\t7.Experience:" << exp << endl
432
433
                << "\t\t\t\t\t8.City:" << ci << endl << endl;
434
          count ++:
435
       }
436
     file.close();
437
     if (count == 0)
438
       cout << "\n\t\t\t\t\t\t\t\no matching records found!" << endl;</pre>
439
440
      cout << "\t\t\t\t\t" << "----" << endl;
441
442
     cout << "\n\n\t\t\t\tEnter 1 to return to Doctor Database\n\n\t\t\t\tEnter 2 to</pre>
443
       Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t";</pre>
444
445
      int c;
     cin >> c;
446
447
     if (c == 1) {
       clear_screen();
448
       getDoctorDatabase();
449
450
451
     else
452
      exit(0);
453
454
455 }
456
457 // Display Doctor Functions End
458 // -----
459
460
462 //the Delete Doctor function
463 // -----
464 void deleteDoc() {
     string x;
465
466
     cout << "\n\n\t\t\t\t\tEnter the ID of the Doctor whose profile you want to Edit: " ;</pre>
467
     cin >> x:
468
     fstream fileObj("doctor.txt");
469
     fileObj.seekg(0);
470
471
     int age, exp, count = 0;
472
     string ID, fname, lname, ci, qua, spe;
while (fileObj >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
473
474
475
        if (ID == x) {
476
          \verb|cout| << "\n\t\t\t\t\t\t.ID:" << ID << endl|
477
                << "\t\t\t\t\t2.First Name:" << fname << endl
478
                << "\t\t\t\t\t\t\13.Last Name:" << lname << end
<< "\t\t\t\t\t\t\t\14.Age:" << age << endl</pre>
479
                << "\t\t\t\t\t5.Qualification:" << qua << endl
481
                << "\t\t\t\t\t6.Specialization:" << spe << endl
482
                << "\t\t\t\t\t7.Experience:" << exp << endl
483
                << "\t\t\t\t\t8.City:" << ci << endl << endl;
484
          count++;
485
          break;
486
487
     }
488
489
     fileObj.close();
490
491
     if (count == 0) {
        cout << "\n\t\t\t\t\t\t\t\no matching records found!" << endl;</pre>
492
        to Exit." << endl;
       cout << "\t\t\t\t\t\t\t";</pre>
494
        int c;
496 cin >> c;
```

```
497 if (c == 1) {
498
         clear_screen();
         getDoctorDatabase();
499
500
501
502
       else
         exit(0);
503
504
505
506
507
     cout << "\t\t\t\tAre you sure you want to delete this profile?</pre>
           \n \t \t \t \t \t \1.YES
508
          509
     << end1;
cout << "\n\t\t\t\t\t";
510
511
     int n; cin >> n;
512
     if (n == 1) {
513
       fstream file("doctor.txt");
514
       file.seekg (0, ios::beg);
515
       file.seekg(0);
516
517
       string line;
       ofstream tempObj;
518
519
       tempObj.open("copy.txt");
        tempObj.seekp(0);
520
       int skip = 0;
int age1, exp1;
522
       string fname1, lname1, ci1, qua1, spe1;
file.seekg(0); file.seekg(0, ios::cur);
523
524
525
526
       while (file >> line >> fname1 >> lname1 >> age1 >> qua1 >> spe1 >> exp1 >> ci1)
527
528
         if (line != x) {
  tempObj << line << endl << fname1 << endl</pre>
529
530
                    << lname1 << endl << age1 << endl << qua1
531
                    << endl << spe1 << endl << exp1 << endl
532
533
                    << ci1 << endl;
534
535
536
       file.close();
537
538
       tempObj.close();
       remove("doctor.txt");
539
       int result;
540
541
       char oldname[] = "copy.txt";
       char newname[] = "doctor.txt";
542
       result = rename( oldname , newname );
543
       clear_screen();
544
       cout << "\n\t\t\t\tFile successfully deleted" << endl;</pre>
545
546
547
     clear_screen();
548
549
     cout << "\t\t\t\t\t\t" << "----" << endl;
550
551
     cout << "\n\n\t\t\t\t\t\t\tEnter 1 to return to Doctor Database\n\n\t\t\t\t\t\tEnter 2</pre>
      to Exit." << endl;
     cout << "\n\t\t\t\t\t\t";</pre>
553
     int c;
554
     cin >> c;
555
556
     if (c == 1) {
557
       clear_screen();
       getDoctorDatabase();
558
559
560
561
     else
562
      exit(0);
563
564 }
565
566 // Delete Doctor Functions Ends Here
567 // -----
568
```

```
569
570
571
572
573 //the Display DataBase Function
574 //--
575 void dispDatabase() {
576
    fstream fileObj("doctor.txt");
577
    fileObj.seekg(0);
    cout << "\t\t\t\t\tDOCTOR DATABASE" << endl << endl;</pre>
578
     int age, exp, count = 0;
579
     string ID, fname, lname, ci, qua, spe;
580
     while (fileObj >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
581
     { count++;
582
       cout << "\t\t\t\t\t\tDoctor Profile:" << count << endl;</pre>
583
       \verb|cout| << "\n\t\t\t\t\t\t.ID:" << ID << endl| \\
584
            << "\t\t\t\t\t2.First Name:" << fname << endl
585
            << "\t\t\t\t\t\t3.Last Name:" << lname << endl
586
            << "\t\t\t\t\t4.Age:" << age << endl
587
            << "\t\t\t\t\t5.Qualification:" << qua << endl
588
            << "\t\t\t\t\t6.Specialization:" << spe << endl
            << "\t\t\t\t\t7.Experience:" << exp << endl
590
591
            << "\t\t\t\t\t8.City:" << ci << endl << endl;
592
     }
593
594
     if (count == 0) {
595
      cout << "\n\t\t\t\t\t\tNo matching records found!" << endl;</pre>
596
597
598
     cout << "\t\t\t\t\t\t" << "----" << endl:
599
600
601
     \texttt{cout} << "\n\n\t\t\t\tEnter 1 to return to Doctor Database\n\n\t\t\t\tEnter 2 to
602
      Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t";</pre>
603
     int c;
604
605
     cin >> c;
    if (c == 1) {
606
      clear_screen();
607
       getDoctorDatabase();
608
609
610
     else
611
      exit(0);
612
613 }
614
615 // Display Database Function Ends Here
616 //--
617
618
619
621
622 //Total NUmber Of Doctors function
623 // -----
624 void numberofDocs() {
625
     fstream fileObj("doctor.txt");
626
    fileObj.seekg(0);
627
     int age, exp, count = 0;
     string ID, fname, lname, ci, qua, spe;
while (fileObj >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
629
630
     { count++;
631
632
     \verb|cout| << "\n\t\t\t\t\t\t The Total number of doctors in the hospital=" << count << endle | |
633
      << endl;
634
     cout << "\t\t\t\t\t\t" << "----" << endl;
635
636
     637
      to Exit." << endl;
638 cout << "\n\t\t\t\t\t\t";
```

```
639 int c;
640
     cin >> c;
     if (c == 1) {
641
      clear_screen();
642
     getDoctorDatabase();
}
643
644
645
646
     else
647
      exit(0);
648 }
649 //Total NUmber Of Doctors function Ends Here
650 // --
651
652
653
654
655
656
657
658 //Patient Class
659 // -----
660 class patient {
661 private:
     string fname, lname, occupation, p_city, dis, addDate, relDate;
662
     int p_age, p_ID;
663
    long double phnumber, bill;
664
     string getDept();
665
666 public:
friend void getDoctor();
     friend void addPat();
668
     friend void editPat(patient &pat);
669
    friend void displayPat();
    friend void deletePat();
friend void dispPatDatabase();
671
672
    friend void numberofPats();
673
    friend void getPatientDatabase();
674
675
676 };
677
679
680
681
682 // Department Function
683 //--
string patient::getDept() {
685
    string sp;
     cout << "\t\t\t\t\t\t\t1.GENERAL_MEDICINE" << endl;</pre>
     cout << "\t\t\t\t\t\t\t\t2.NEUROLOGY" << endl;
cout << "\t\t\t\t\t\t\t\t\t\t\t;3.ONCOLOGY" << endl;</pre>
687
688
     cout << "\t\t\t\t\t\t\t+1.HAEMATOLOGY" << endl;</pre>
689
     cout << "\t\t\t\t\t\t\t5.GASTROENTEROLOGY" << endl;</pre>
690
     cout << "\t\t\t\t\t\t\t6.GYNAECOLOGY " << endl << endl;</pre>
691
     int s;
692
     cout << "\t\t\t\t\t\t";</pre>
693
694
     cin >> s;
     switch (s) {
695
696
     case 1: {
697
      sp = "GENERAL_MEDICINE";
698
699
       break;
700
     case 2: {
701
     sp = "NEUROLOGY";
702
       break;
703
704
705
     case 3: {
      sp = "ONCOLOGY";
706
       break;
707
708
    case 4: {
709
      sp = "HAEMATOLOGY";
710
break;
```

```
712 }
713
     case 5: {
     sp = "GASTROENTEROLOGY";
714
       break;
715
716
717
     case 6: {
     sp = "GYNAECOLOGY ";
718
719
      break;
720
721
     default: {
       cout << "\nCome on!Enter a valid option." << endl;</pre>
722
723
724
725
     }
726
727
    return sp;
728 }
729 //-----
730
731
732
733 // Get Doctor Function
734 //----
735 void getDoctor() {
    patient p;
736
737
     string dept;
738
     cout << "\n\t\t\t\t\tEnter the kind of specialization you are looking for:" << endl <</pre>
       endl:
     dept = p.getDept();
fstream fileObj("doctor.txt");
739
740
     fileObj.seekg(0);
741
742
     int age, exp, count = 0;
743
744
     string ID, fname, lname, ci, qua, spe;
     while (fileObj >> ID >> fname >> lname >> age >> qua >> spe >> exp >> ci)
745
746
747
       if (spe == dept) {
        cout << "\n\t\t\t\t\t\tThe doctors available with " << dept << " specialization are</pre>
748
       :" << endl << endl;
         cout <<
                   \n \n\t\t\t\t\t\t\t1.ID:" << ID << endl
              << "\t\t\t\t\t\t\t2.First Name:" << fname << endl
750
              << "\t\t\t\t\t\t3.Last Name:" << lname << endl
751
              << "\t\t\t\t\t\t4.Age:" << age << endl
752
              << "\t\t\t\t\t\t5.Qualification:" << qua << endl
753
              << "\t\t\t\t\t\t6.Specialization:" << spe << endl
754
              << "\t\t\t\t\t\t\t7.Experience:" << exp << endl
755
              << "\t\t\t\t\t\t\t\t8.City:" << ci << endl << endl;
756
         count++;
757
       }
758
759
760
     fileObj.close();
761
762
     if (count == 0) {
      cout << "\t\t\t\t\t\t\omega doctors with this specialization found!" << endl;</pre>
763
764
     cout << "\t\t\t\t\t" << "----" << endl;
765
766
767
      \verb|cout| << "\n\t\t\t\t\t\t\t
768
       Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t\t";</pre>
769
     int c;
770
     cin >> c;
771
     if (c == 1) {
      clear_screen();
773
774
       getPatientDatabase();
775
776
777
     else
      exit(0);
778
779 }
780 // Get Doctor Functions End Here
781 //
```

```
782
783
784
785 // Add patient Function
786 //----
787
788
789
790 void addPat() {
791
     patient p;
cout << "\n\t\t\t\t\tFill up the following details" << endl;</pre>
792
793
                                                                     -----" << endl;
     cout << "\t\t----
794
795
     cout << "\n\t\t\t\t\t\tID: ";</pre>
796
     cin >> p.p_ID;
797
     cout << "\n\t\t\t\t\tFirst Name: ";</pre>
798
799
     cin >> p.fname;
     cout << "\n\t\t\t\t\t\tLast Name: ";</pre>
800
     cin >> p.lname;
801
802
     cout << "\n\t\t\t\t\t\tAge: ";</pre>
     cin >> p.p_age;
cout << "\n\t\t\t\t\t\tPhone No: ";</pre>
803
804
     cin >> p.phnumber;
805
     cout << "\n\t\t\t\t\t\t\t\ccupation: ";</pre>
806
807
     cin >> p.occupation;
     cout << "\n\t\t\t\t\t\tCity: ";</pre>
808
     cin >> p.p_city;
809
     cout << "\n\t\t\t\t\tDisease/Symptoms: ";</pre>
810
     cin >> p.dis;
cout << "\n\t\t\t\t\tAdmission date (DD/MM/YYYY): ";</pre>
811
812
     cin >> p.addDate;
813
     cout << "\n\t\t\t\t\tRelease date (DD/MM/YYYY): ";</pre>
814
815
     cin >> p.relDate;
     cout << "\n\t\t\t\t\tTotal Bill generated: ";</pre>
816
     cin >> p.bill;
817
     cout << "\n\t\t\t\t\tKind of Specialization required: " << endl;</pre>
818
     string dept = p.getDept();
819
     clear_screen();
820
821
     fstream patObj;
     patObj.open("patient.txt", ios::app );
822
823
     patObj.seekp (0, ios::end);
     patObj << p.p_ID << endl << p.fname << endl << p.lname << endl
824
            << p.p_age << endl << p.phnumber << endl << p.occupation << endl
825
            << p.p_city << endl << p.dis << endl << p.addDate << endl
826
            << p.relDate << endl << p.bill << endl << dept << endl;
827
     patObj.close();
828
829
830
     831
832
     cout << "\n\t\t\t\t\t\t\" << "----" << endl;
833
834
     cout << "\n\t\t\t\t\tEnter 1 to return to Patient Database\n\t\t\t\tEnter 2 to Exit.</pre>
835
      " << endl;
     cout << "\t\t\t\t\t";</pre>
     int c;
837
838
     cin >> c;
     if (c == 1) {
839
      clear_screen();
840
841
       getPatientDatabase();
842
843
      exit(0);
845
846 }
847
848 // Add Patient Ends Here
849 //---
850
851
853
```

```
854
855
856
857
858 // Edit Patient Detail
859 //
860
861 void editPat(patient &pat)
862 {
863
     cout << "\n\n\t\t\t\t\tEnter the ID of the Patient whose profile you want to Edit: " ;</pre>
864
     cin >> x:
865
     fstream patObj("patient.txt");
866
     patObj.seekg(0);
867
     string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
868
     int p_age, p_ID, count = 0;
869
     long double phnumber, bill;
870
     while (patObj >> p_ID >> fname >> lname >> p_age >> phnumber
871
             >> occupation >> p_city >> dis >> addDate >> relDate >> bill >> dept)
872
873
874
       if (p_ID == x) {
         cout << "\n\n\t\t\t\t\t1.ID:" << p_ID << end1</pre>
875
              876
              << "\t\t\t\t\t3.Last Name:" << lname << endl
877
              << "\t\t\t\t\t4.Age" << p_age << endl
878
              << "\t\t\t\t5.Phone No.:" << phnumber << endl << "\t\t\t\t6.Occupation:" << occupation << endl
879
880
              << "\t\t\t\t\t7.City:" << p_city << endl
881
              882
              << "\t\t\t\t\t\t\19.Admission date(DD/MM/YYYY):" << addDate << endl
883
              << "\t\t\t\t\t10.Release date(DD/MM/YYYY):" << relDate << endl
884
              << "\t\t\t\t\t11.Total Bill generated:" << bill << endl
885
              << "\t\t\t\t\t12.Kind of Specialization required:" << dept << endl << endl;
886
887
         break;
888
889
     patObj.close();
891
892
     if (count == 0)
893
       cout << "\n\t\t\t\t\t\t\t\no matching records found!" << endl;</pre>
894
895
       cout << "\n\t\t\t\t\t" << "-----</pre>
896
       2 to Exit." << endl;</pre>
       cout << "\t\t\t\t\t\t";</pre>
898
899
       int c;
       cin >> c;
900
       if (c == 1) {
901
        clear_screen();
902
         getPatientDatabase();
903
904
       else
905
906
         exit(0);
907
908
909
     fstream file("patient.txt");
910
     file.seekg (0, ios::beg);
911
     file.seekg(0);
912
     int line;
913
     ofstream tempObj;
914
     tempObj.open("copy2.txt");
915
     tempObj.seekp(0);
916
917
     int skip = 0;
918
     string fname1, lname1, occupation1, p_city1, dis1, addDate1, relDate1, dept1;
919
     int p_age1;
     long double phnumber1, bill1;
920
     file.seekg(0); file.seekg(0, ios::cur);
921
922
     while (file >> line >> fname1 >> p_age1 >> phnumber1 >> occupation1 >>
    p_city1 >> dis1 >> addDate1 >> relDate1 >> bill1 >> dept1)
```

```
924
       if (line != x) {
925
         tempObj << line << endl << fname1 << endl << lname1
926
                   << endl << p_age1 << endl << phnumber1 << endl << occupation1
927
                   << endl << p_city1 << endl << dis1 << endl << addDate1 << endl
928
                   << relDate1 << end1 << bill1 << end1 << dept1 << end1;
929
930
       }
931
     }
932
933
     file.close();
     tempObj.close();
934
     remove("patient.txt");
935
     int result;
936
     char oldname[] = "copy2.txt";
char newname[] = "patient.txt";
937
938
     result = rename( oldname , newname );
939
     int edit;
cout << "\t\t\t\t\tEnter number corresponding to the Field you want to Edit: ";</pre>
940
941
     cin >> edit;
942
     switch (edit)
943
944
     case 1: {
945
       cout << "\n\t\t\t\t\tID :";</pre>
946
        cin >> p_ID;
947
948
       break:
     }
949
950
     case 2: {
       cout << "\n\t\t\t\t\tFirst Name:";</pre>
951
952
       cin >> fname;
953
954
       break;
955
     case 3: {
956
       cout << "\n\t\t\t\t\tLast Name:";</pre>
957
       cin >> lname;
958
959
960
       break;
961
     case 4: {
962
       cout << "\n\t\t\t\t\tAge:";</pre>
963
       cin >> p_age;
964
965
       break;
966
     case 5: {
967
      cout << "\n\t\t\t\t\tPhone No.:";</pre>
968
       cin >> phnumber;
969
970
       break;
     }
971
     case 6: {
972
       cout << "\n\t\t\t\t\tOccupation:";</pre>
973
       cin >> occupation;
974
       break;
975
     }
976
     case 7: {
977
       cout << "\n\t\t\t\t\tCity:";</pre>
978
979
        cin >> p_city;
       break:
980
     }
981
982
     case 8: {
983
984
       cout << "\n\t\t\t\t\tDisease/Symptoms:";</pre>
        cin >> dis;
985
986
       break;
     }
987
     case 9: {
988
       cout << "\n\t\t\t\tAdmission date (DD/MM/YYYY):";</pre>
989
990
        cin >> addDate;
       break;
991
     }
992
     case 10:
993
     {
994
995
       cout << "\n\t\t\t\tRelease date (DD/MM/YYYY):";</pre>
996 cin >> relDate;
```

```
997
    }
998
     case 11: {
       cout << "\n\t\t\t\tTotal Bill generated:";</pre>
999
       cin >> bill;
1000
       break;
1001
1002
     case 12: {
       cout << "\n\t\t\t\tKind of Specialization required:";</pre>
1004
       dept = pat.getDept();
1005
1006
       break;
1007
     default: {
1008
      cout << "\n\t\t\t\t\t\tInvalid Input!" << endl;</pre>
1009
       cout << "\n\n\t\t\t\t\t\t\tEnter 1 to return to Doctor Database\n\n\t\t\t\t\t\tEnter 2</pre>
        to Exit." << endl;
       cout << "\t\t\t\t\t\t\";</pre>
       int c;
1013
       cin >> c;
       if (c == 1) {
1014
         clear_screen();
1015
         // getDoctorDatabase();
         getPatientDatabase();
1018
1019
1020
1021
      else
1022
         exit(0);
     }
1023
     }
1024
1026
1027
     clear_screen();
1028
     1029
     1030
           << "\t\t\t\t\t\13.Last Name:" << lname << endl
           << "\t\t\t\t\t\4.Age" << p_age << endl
           << "\t\t\t\t\5.Phone No.:" << phnumber << endl << "\t\t\t\t\6.Occupation:" << occupation << endl
1034
           << "\t\t\t\t\t7.City:" << p_city << endl
1036
           << "\t\t\t\t\t\t8.Disease/Symptoms:" << dis << endl
1037
           << "\t\t\t\t\t\19.Admission date(DD/MM/YYYY):" << addDate << endl
1038
           << "\t\t\t\t\t\10.Release date(DD/MM/YYYY):" << relDate << endl
1039
           << "\t\t\t\t\t11.Total Bill generated:" << bill << endl
1040
           << "\t\t\t\t12.Kind of Specialization required:" << dept << endl << endl;
1041
     fstream newObj;
1042
     newObj.open("patient.txt", ios::app);
1043
     newObj.seekp (0, ios::end);
newObj << p_ID << endl << fname << endl << lname << endl</pre>
1044
1045
             << p_age << endl << phnumber << endl << occupation << endl
1046
             << p_city << endl << dis << endl << addDate << endl
1047
             << relDate << endl << bill << endl << dept << endl;
1048
     newObj.close();
1049
     //after completion
     cout << "\n\t\t\t\t\t" << "----" << endl;
     cout << "\n\n\t\t\t\tEnter 1 to return to Patient Database\n\n\t\t\t\tEnter 2 to</pre>
      Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t";</pre>
1056
     int c:
     cin >> c;
1058
     if (c == 1) {
1059
       clear_screen();
1060
1061
       getPatientDatabase();
1062
1063
     }
1064
     else
1065
       exit(0);
1066
1067
```

```
1068 }
1070 // Edit Patient Detail Function Ends Here
1071 //-
1072
1074
1077
1078
1080 //the Display Particular Patient Function
1081 //--
1082
1083
1084 void displayPat()
1085 {
1086
     cout << "\n\n\t\t\t\t\tEnter the ID of the Patient whose profile you want to Edit: " ;</pre>
1087
     cin >> x;
     fstream patObj("patient.txt");
1089
1090
     patObj.seekg(0);
     string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
1091
     int p_age, p_ID, count = 0;
1092
1093
     long double phnumber, bill;
1094
     while (pat0bj >> p_ID >> fname >> lname >> p_age >> phnumber >> occupation >> p_city
       >> dis >> addDate >> relDate >> bill >> dept)
1095
        if (p_ID == x) {
1096
          cout << "\n\n\t\t\t\t\t1.ID:" << p_ID << endl</pre>
1097
               1098
               << "\t\t\t\t\t3.Last Name:" << lname << endl
1099
               << "\t\t\t\t\t4.Age" << p_age << endl
1100
               << "\t\t\t\t\t5.Phone No.:" << phnumber << endl
               << "\t\t\t\t\t6.Occupation:" << occupation << endl
1102
               << "\t\t\t\t\t7.City:" << p_city << endl
1103
               << "\t\t\t\t\t\t8.Disease/Symptoms:" << dis << endl
1104
               << "\t\t\t\t\t\19.Admission date(DD/MM/YYYY):" << addDate << endl
1105
               << "\t\t\t\t\t10.Release date(DD/MM/YYYY):" << relDate << endl
1106
               << "\t\t\t\t\t11.Total Bill generated:" << bill << endl
               << "\t\t\t\t\t\t12.Kind of Specialization required:" << dept << endl << endl;
1108
1109
          count++;
1110
          break;
       }
1112
1113
     patObj.close();
1114
     if (count == 0)
       cout << "\n\t\t\t\t\t\t\no matching records found!" << endl;</pre>
1116
1117
     cout << "\t\t\t\t\t" << "----" << endl;
1118
1119
     cout << "\n\n\t\t\t\tEnter 1 to return to Patient Database\n\n\t\t\t\tEnter 2 to</pre>
1120
       Exit." << endl;
     cout << "\n\t\t\t\t\t";</pre>
1121
     int c;
1122
1123
     cin >> c;
     if (c == 1) {
1124
       clear_screen();
1125
       getPatientDatabase();
1126
1127
1128
    else
1129
       exit(0);
1130
1131 }
1132 //the Display Particular Patient Function Ends Here
1133 //-
1134
1136
1137
1138
```

```
1139 //Delete Patient function
1140 //---
1141
1142
1144 void deletePat()
1145 {
1146
     cout << "\n\n\t\t\t\t\tEnter the ID of the Patient whose profile you want to Edit: " ;</pre>
1147
     cin >> x;
1148
      fstream patObj("patient.txt");
1149
      patObj.seekg(0);
1150
      string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
      int p_age, p_ID, count = 0;
1152
1153
      long double phnumber, bill;
      while (pat0bj >> p_ID >> fname >> p_age >> phnumber >> occupation >> p_city
1154
        >> dis >> addDate >> relDate >> bill >> dept)
1155
        if (p_ID == x) {
1156
          1157
                << "\t\t\t\t\t\t2.First Name:" << fname << endl
1158
                << "\t\t\t\t\t\t3.Last Name:" << lname << endl
1159
                << "\t\t\t\t\t4.Age" << p_age << endl
1160
                << "\t\t\t\t5.Phone No.:" << phnumber << endl << "\t\t\t\t6.Occupation:" << occupation << endl
1161
1162
                << "\t\t\t\t\t7.City:" << p_city << end1
1163
                << "\t\t\t\t\t\t8.Disease/Symptoms:" << dis << endl
1164
                << "\t\t\t\t\t\t\19.Admission date(DD/MM/YYYY):" << addDate << endl
1165
                << "\t\t\t\t\t10.Release date(DD/MM/YYYY):" << relDate << endl
1166
                << "\t\t\t\t\t11.Total Bill generated:" << bill << endl
1167
               << "\t\t\t\t\t\t12.Kind of Specialization required:" << dept << endl << endl;
1168
          count++;
          break:
1170
       }
1171
1172
1173
      patObj.close();
1174
      if (count == 0) {
       cout << "\n\t\t\t\t\t\t\t\No matching records found!" << endl;</pre>
1176
        cout << "\n\n\t\t\t\t\tEnter 1 to return to Patient Database\n\n\t\t\t\t\tEnter</pre>
1177
        2 to Exit." << endl;
        cout << "\t\t\t\t\t\t\";</pre>
1178
        int c;
1179
        cin >> c;
1180
        if (c == 1) {
1181
         clear_screen();
1182
          getPatientDatabase();
1183
1184
1185
1186
        else
         exit(0);
1187
1188
1189
      cout << "\t\t\t\t\tAre you sure you want to delete this profile?\n\t\t\t\t\t\1.YES\n\t\</pre>
1190
       t\t \t \t \t \t \t \t \t \t \
      cout << "\n\t\t\t\t\t";</pre>
      int n; cin >> n;
1192
1193
      if (n == 1)
1194
      {
        fstream file("patient.txt");
1195
        file.seekg (0, ios::beg);
1196
        file.seekg(0);
1197
        int line;
1198
        ofstream tempObj;
1199
        tempObj.open("copy2.txt");
1200
1201
        tempObj.seekp(0);
1202
        int skip = 0;
        string fname1, lname1, occupation1, p_city1, dis1, addDate1, relDate1, dept1;
1203
        int p_age1;
1204
        long double phnumber1, bill1;
        file.seekg(0); file.seekg(0, ios::cur);
1206
1208
```

```
while (file >> line >> fname1 >> lname1 >> p_age1 >> phnumber1 >> occupation1 >>
1209
        p_city1 >> dis1 >> addDate1 >> relDate1 >> bill1 >> dept1)
          if (line != x) {
            tempObj << line << endl << fname1 << endl << lname1</pre>
1212
                     << endl << p_age1 << endl << phnumber1 << endl << occupation1
1213
                     << endl << p_{city1} << endl << dis1 << endl << addDate1 << endl
1214
                     << relDate1 << endl << bill1 << endl << dept1 << endl;
1216
1217
1218
       file.close();
1219
       tempObj.close();
        remove("patient.txt");
        int result;
        char oldname[] = "copy2.txt";
        char newname[] = "patient.txt";
1224
        result = rename( oldname , newname );
1226
        clear_screen();
        cout << "\n\t\t\t\t\tFile successfully deleted" << endl;</pre>
1227
1228
1229
1230
     clear_screen();
     cout << "\t\t\t\t\t\t" << "-----" << endl;
     cout << "\n\n\t\t\t\t\t\tEnter 1 to return to Patient Database\n\n\t\t\t\t\t\tEnter 2</pre>
1234
       to Exit." << endl:
     cout << "\t\t\t\t\t\t";</pre>
     int c;
1236
     cin >> c;
     if (c == 1) {
1238
       clear_screen();
1239
1240
        getPatientDatabase();
1241
     }
1242
1243
     else
1244
       exit(0);
1245
1246 }
1247 // Delete Patient Function Ends Here
1248 //--
1251
1253 //the Display Patient Database function
1254 //-----
void dispPatDatabase()
1258 {
1259
     fstream Obj("patient.txt");
     Obj.seekg(0);
1260
     cout << "\t\t\t\t\t\tPATIENT DATABASE" << endl << endl;</pre>
1261
     string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
1263
1264
     int p_age, p_ID, count = 0;
1265
      long double phnumber, bill;
     while (Obj >> p_ID >> fname >> p_age >> phnumber >> occupation >> p_city >>
1266
        dis >> addDate >> relDate >> bill >> dept)
      { count++;
1267
        cout << "\n\t\t\t\t\t\tPatient Profile:" << count << endl;</pre>
1268
        \verb|cout| << "\n\t\t\t\t\t\t\t.ID:" << p_ID << endl|
             << "\t\t\t\t\t\t2.First Name:" << fname << endl
             << "\t\t\t\t\t\3.Last Name:" << lname << endl
1271
             << "\t\t\t\t\t4.Age" << p_age << end1
             << "\t\t\t\t\t5.Phone No.:" << phnumber << endl
<< "\t\t\t\t6.Occupation:" << occupation << endl</pre>
1273
1274
             << "\t\t\t\t\t7.City:" << p_city << endl
             << "\t\t\t\t\t8.Disease/Symptoms:" << dis << endl
1276
             << "\t\t\t\t\t\19.Admission date(DD/MM/YYYY):" << addDate << endl
1277
            << "\t\t\t\t\t\t10.Release date(DD/MM/YYYY):" << relDate << endl
1278
```

```
<< "\t\t\t\t\t11.Total Bill generated:" << bill << endl
1279
1280
            << "\t\t\t\t12.Kind of Specialization required:" << dept << endl << endl;
1281
1282
     }
1283
1284
     Obj.close();
1285
1286
     if (count == 0) {
1287
      cout << "\n\t\t\t\t\t\t\no matching records found!" << endl;</pre>
1288
1289
1290
     cout << "\t\t\t\t\t\" << "----" << endl;
1292
     Exit." << endl;</pre>
     cout << "\n\t\t\t\t\t";</pre>
1294
1295
     int c;
     cin >> c;
1296
     if (c == 1) {
1297
1298
      clear_screen();
       getPatientDatabase();
1299
1300
1301
     else
1302
1303
      exit(0);
1304
1305 }
1307 //the Display Patient Database Ends Here
1308 //----
1310
1311 // -----
1312
1313 //Number of Patient function
1314 //----
1315 void numberofPats()
1316
     fstream Obj("patient.txt");
1318
1319
     Obj.seekg(0);
     string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
1320
     int p_age, p_ID, count = 0;
1321
     long double phnumber, bill;
1322
     while (Obj >> p_ID >> fname >> lname >> p_age >> phnumber >>
            occupation >> p_city >> dis >> addDate >> relDate >> bill >> dept)
1324
1325
      count++:
1326
1327
1328
     Obj.close();
1329
     cout << "\n\n\t\t\t\t\tThe Total number of Patients in the hospital=" << count << endl</pre>
1330
       << end1;
     cout << "\t\t\t\t\t\" << "----" << endl;
     cout << "\n\n\t\t\t\t\t\t\tEnter 1 to return to Patient Database\n\n\t\t\t\t\t\tEnter 2</pre>
1334
      to Exit." << endl;
     cout << "\n\t\t\t\t\t\t";</pre>
     int c;
1336
     cin >> c;
     if (c == 1) {
1338
      clear_screen();
       getPatientDatabase();
1340
1341
1342
     else
1343
1344
      exit(0);
1345
1346
1347 // Number Of Patient Functions Ends Here
1348 //---
```

```
1349
1350
1351
1352 // Bed Class
1353 //----
1354
1355 class bed {
1356 public:
1357   int total = 1500;
    friend void getStatus();
1359 };
1360 //-
1362
1363
1364
1365 // Get Status of Bed Function
1366 //
1367
1368 void getStatus()
1369 { bed b;
cout << "\n\t\t\t\t\tTotal Number of Beds in the hospital:" << b.total << endl;
1371
    fstream file("patient.txt");
    file.seekg(0);
1372
    string fname, lname, occupation, p_city, dis, addDate, relDate, dept;
1373
1374
     int p_age, p_ID, count = 0;
    long double phnumber, bill;
while (file >> p_ID >> fname >> lname >> p_age >> phnumber
1375
1376
           >> occupation >> p_city >> dis >> addDate >> relDate >> bill >> dept)
1377
     {
1378
1379
      count++;
1380
1381
1382
     file.close();
    cout << "\n\n\t\t\t\t\t\tThe number of Occupied Beds=" << count << endl;</pre>
1383
    1384
    cout << "\t\t\t\t\t\t" << "----" << endl;
1386
1387
1388
     " << endl;
1389
     cout << "\t\t\t\t\t\t";</pre>
     int c;
1390
     cin >> c;
1391
    if (c == 1) {
     clear_screen();
1393
      getBedDatabase();
1394
1395
1396
1397
    else
     exit(0);
1398
1399
1400 }
1401 //----
1402
1403
1404
1405
1406 //the main function
1407
1408 password A;
1409
1410 int main()
1411 {
    A.getPassword();
1412
1413
    clear_screen();
1414
    1415
1416
    cout << endl << endl;</pre>
    cout << "\t\t\t\t\t" << "----" << endl;
1417
1418
    cout << "\t\t\t\t\t\t\t1.Main Menu" << endl;</pre>
cout << "\t\t\t\t\t\t\t2.Exit" << endl;
```

```
cout << "\t\t\t\t\t\t\t\----" << endl << endl;</pre>
1421
     cout << "\t\t\t\t\tEnter your choice:";</pre>
1422
     int choice1;
1423
     cin >> choice1;
1424
     if (choice1 == 1) {
     menu();
1426
1427
1428
     else if (choice1 == 2) {
1429
1430
       return 0;
1431
     else
1432
      cout << "\nCome on!Enter a valid option." << endl;</pre>
1433
1434
1435
1436
1437
1438
1439 //-----
1440
1442
1443
1444 void menu()
1445 {
1446
     clear_screen();
1447
     int var = chooseMain();
     clear_screen();
1448
     switch (var) {
     case 1: {
1450
       A.passwordProtect();
1451
      clear_screen();
1452
      getDoctorDatabase();
1453
1454
       break;
     }
1455
1456
1457
     case 2: {
1458
      A.passwordProtect();
      clear_screen();
1459
1460
       getPatientDatabase();
       break;
1461
1462
1463
1464
1465
     case 3: {
      A.passwordProtect();
1466
       clear_screen();
1467
1468
       getBedDatabase();
       break;
1469
     }
1470
1471
     case 4:
1472
1473
      exit(0);
1474
1475
       break;
1476
1477
       cout << "\nCome on!Enter a valid option." << endl;</pre>
1478
1479
1480
1481 }
1482
1483
1484 //the chooseMain function
1485 //----
1486
1487
1488
1489 int chooseMain() {
1490
    int choice2;
1491
     cout << "\n\t\t\t\t\t\tMAIN MENU" << endl << endl;</pre>
1493 cout << "\t\t----
```

```
" << endl;
     cout << endl;</pre>
      cout << "\t\t\t\t\t1.Enter Into Doctors' Database" << endl;</pre>
1495
     cout << "\t\t\t\t\t\t2.Enter Into Patients' Database" << endl;
cout << "\t\t\t\t\t\t3.Check for Hospital Bed Availability" << endl;</pre>
1496
      cout << "\t\t\t\t\t4.Exit" << endl << endl;</pre>
1498
1499
1500
      cout << "\t\t-----
1501
       " << endl;
1502
     cout << "\n\t\tEnter the number corresponding to your choice: ";</pre>
1504
     cin >> choice2;
1505
     return choice2;
1506
1507
1508
1509
1510
1511 //----
1512
1513
1514 // getDoctorDatabase
1515 // -----
void getDoctorDatabase()
1517 {
1518
     int choice_doc;
1519
     cout << "\t\t\t\t\t\t\tWELCOME TO DOCTOR'S DATABASE" << endl << endl;</pre>
1520
     cout << "\t\t---
1521
        " << endl:
     cout << "\t\t\t\t\t1.Add New Doctor's Information" << endl;</pre>
1523
      cout << "\t\t\t\t\t2.Edit a Doctor's Information" << endl;</pre>
1524
     cout << "\t\t\t\t\t3.Display a Doctor's Information" << endl;</pre>
1525
     cout << "\t\t\t\t\t\t4.Delete a Doctor's Information" << endl;
cout << "\t\t\t\t\t\t5.Display Entire Doctor Database" << endl;</pre>
1526
      cout << "\t\t\t\t\t6.Total Number of Doctors" << endl;</pre>
1528
     cout << "\t\t\t\t\t. Go back to Main Menu" << endl << endl;
1529
     cout << "\t\t-----
1531
       " << end1;
1532
1533
     cout << "\n\t\tEnter the number corresponding to your choice: ";</pre>
1534
     cin >> choice_doc;
1535
1536
     clear_screen();
      switch (choice_doc) {
1537
      case 1: {
1538
1539
       addDoc();
1540
       break;
1541
1542
      case 2: {
      doctor k;
1543
       editDoc(k);
1544
        break;
1545
1546
1547
     case 3: {
      displayDoc();
1548
       break;
1549
1550
      case 4: {
       deleteDoc():
1553
       break;
1554
      case 5: {
1556
      dispDatabase();
        break;
1557
1558
     case 6: {
1559
1560
       numberofDocs();
break;
```

```
1563 }
1564
             case 7: {
1565
1566
                  menu();
1567
1568
                 break;
1569
1570
1572 }
1573
1574
1576 //the getPatientDatabase function
1577 //-----
1578 void getPatientDatabase() {
            int choice_pat;
1579
             1580
            cout << "\t\t--
1581
                  " << endl;
             cout << endl;</pre>
            cout << "\t\t\t\t\t1.Add New Patient's Information" << endl;</pre>
1583
             \label{eq:cout} \begin{tabular}{ll} \begin{t
1584
             cout << "\t\t\t\t\t3.Display a Patient's Information" << endl;</pre>
1585
             cout << "\t\t\t\t\t4.Delete a Patient's Information" << endl;</pre>
1586
             cout << "\t\t\t\t\t5.Display Entire Patient Database" << endl;</pre>
1587
             cout << "\t\t\t\t\t6.Total Number of Patients" << endl;</pre>
1588
             cout << "\t\t\t\t\t7.Check for doctor availability" << endl;</pre>
1589
             cout << "\t\t\t\t\t8.Go back to Main Menu" << endl << endl;</pre>
1590
1591
             cout << "\t\t-----
1592
                " << endl;
1593
1594
             cout << "\n\t\tEnter the number corresponding to your choice: ";</pre>
1595
             cin >> choice_pat;
1596
             clear_screen();
1597
1598
             switch (choice_pat) {
1599
             case 1: {
1600
                  addPat();
                  break:
1601
1602
             case 2: {
1603
                 patient p;
1604
1605
                  editPat(p);
1606
                 break;
1607
             case 3: {
1608
                 displayPat();
1609
1610
                  break;
1611
             case 4: {
1612
1613
                 deletePat();
                 break;
1614
1615
1616
             case 5: {
              dispPatDatabase();
1617
1618
                 break;
1619
             case 6: {
1620
1621
               numberofPats();
                  break;
1623
             case 7: {
1624
              getDoctor();
1626
                  break;
1627
1628
1629
             case 8: {
1630
              menu();
1631
1632
                  break;
1633 }
```

```
1634
1635 }
1636 }
1637
1639 //the getBedDatabase function
1640 //----
void getBedDatabase() {
int choice_bed;
     cout << "\n\t\t\t\t\t\t\tWELCOME TO BED DATABASE" << endl << endl;</pre>
1643
    cout << "\t\t---
1644
       " << endl;
     cout << endl;</pre>
     cout << "\t\t\t\t\t\t\t1.Check Bed Status" << endl;</pre>
1646
     cout << "\t\t\t\t\t\t\t2.Go back to Main Menu" << endl << endl;</pre>
1647
     cout << "\t\t-----
1648
      " << endl;
     cout << "\n\t\tEnter the number corresponding to your choice: ";</pre>
1650
     cin >> choice_bed;
1651
1652
     clear_screen();
     switch (choice_bed)
1653
1654
1655
     case 1: {
     getStatus();
break;
1656
1657
1658
     case 2: {
1659
     menu();
    break;
1661
1662
1663 }
1664 }
1665
1666
void clear_screen()
1669 #ifdef _WIN32
system("cls");
1671 #else
system("clear");
1673 #endif
1674 }
```