COMPUTER SCIENCE PROJECT
2019-20

ONLINE HEALTH CENTRE

Done By:

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INTRODUCTION

Today, the increasing emphasis is based on health, health promotion, wellness and self-care. Health is seen as resulting from a lifestyle that is oriented towards wellness. The result has been the evolution of a wide range of health promotion strategies including lifetime health monitoring programmes, environmental health programmes, risk reduction, nutrition and health education. Dissemination of health information is one of the ways of increasing knowledge on health and modification of behaviour which is directed towards promotion of health and prevention of disease.

The word "health" refers to a state of complete emotional and physical well-being. Healthcare exists to help people maintain this optimal state of health. There are three main types of health: general , physical and mental health.

General health is based on your day-to-day lifestyle activities. The importance of maintaining your body through exercise, diet, preventative health checks, sleep management are all aspects of general health.

Physical health refers to the state of your physical body and how well it is operating. It is influenced by levels of physical activity, adequate nutrition, rest, environments etc.

Mental health is a level of psychological well-being, or an absence of mental illness. It is the "psychological state of someone who is functioning at a satisfactory level of emotional and behavioural adjustment".

Owing to the importance of health, I have programmed a health quiz. The user can answer three quizzes based on general, physical and mental health and would be able to assess his well being.

SYSTEM REQUIREMENTS

Hardware Requirements:

- Computer Processor:
  Intel(R) Pentium(R) CPU G2020 @ 2.90GHz
  2.90GHz
- RAM: 4.00GB
- Hard Disk: 180 GB or above

Software Requirements :

- Operating System: Windows 7 or above
- Language used: Turbo C++

CLASSES USED

DETAILS

```
class details{char name[30],bdgrp[5],gend;
    int age;
protected:char id[10];
    public:void getdet(char ID[10]);
    char* retid();
            intretage();
            voidputdet();
        }D;
```
DESCRIPTION:
This class contains data members for storing the details of a user like name, age, blood group, age and gender. It also has functions to access these data members. The file "details.dat" has records based on this class.

GENERAL

```
class general{char q[100],a[5][20];
        public: void read();
            void show();
        }G;
```
DESCRIPTION:
This class contains data members to store questions and options based on general health. It also functions to access these data members. The file "general.dat" has records based on this class.

PHYSICAL

```
class physical{char string[100];
    public: void getques()
            {
            gets(string);
            }
            voidputques()
            {
            cout<<string<<'\n';
            }
            }ph;
```

DESCRIPTION:
This class contains data members to store questions based on physical health. It also has functions to access the data member. The file "physical.dat" has records based on this class.

MENTAL

```
class mental{char question[100],option[5][20];
public: void r();
        void s();
            }m;
```

DESCRIPTION:
This class contains data members to store questions and options based on mental health. It also has functions to access these data members. The file "mental.dat" has records based on this class.

FUNCTIONS USED

Functions Defined In Class

class- details

- void getdet(char ID[10]) :
  To get input of the details of a person(record)
- char *retid( ):
  To return variable 'id'(ID) of a person
- intretage( ):
  To return variable 'age' (age) of a person(record)
- void putdet( ):
  To display details of a person(record)

class-general

- void read( ):
  To get input of records of class general
- void show( ):
  To display records of class general

class-physical

- void getques( ):
  To get input of records of class physical
- void putques( ):
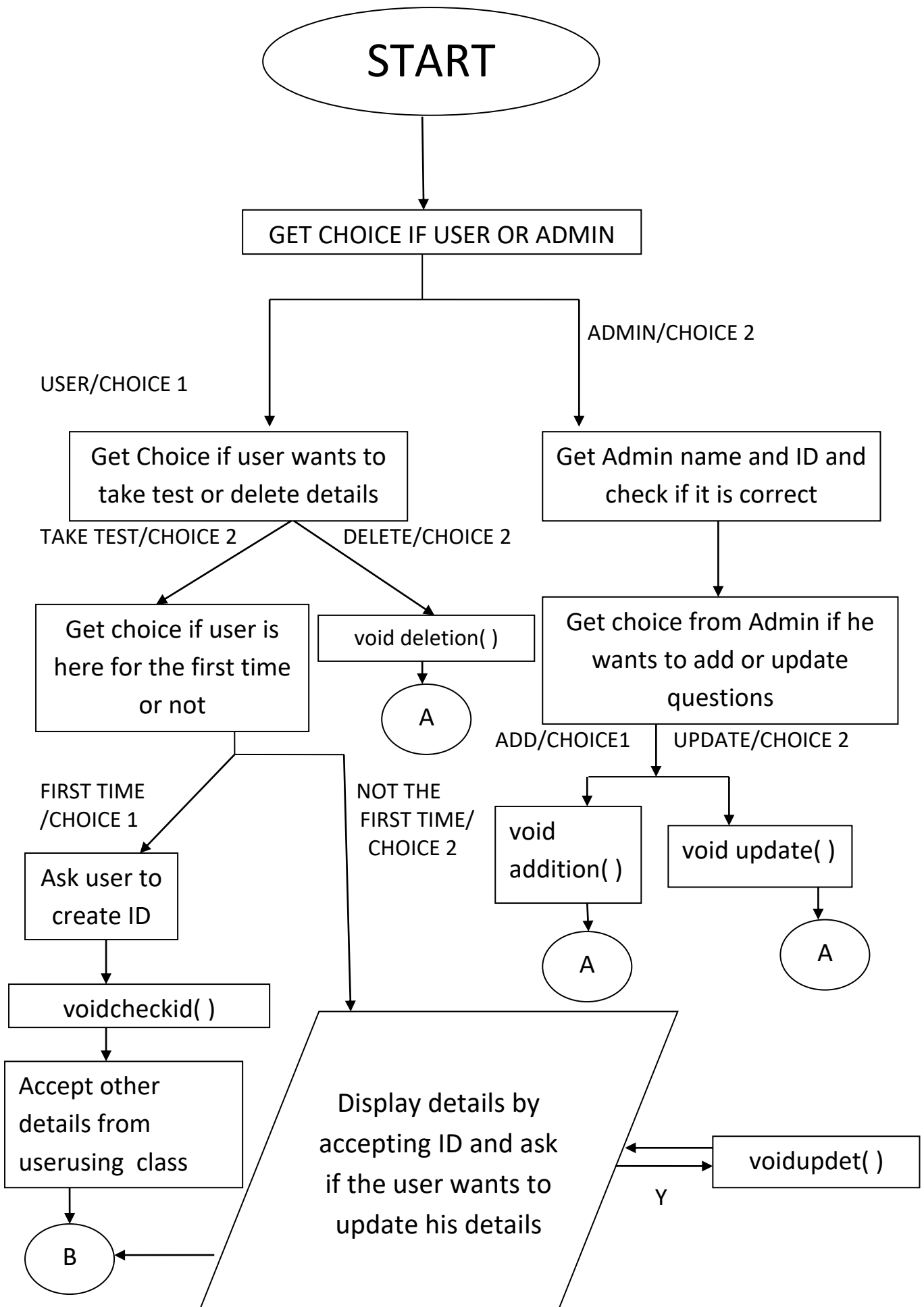 To display records of class physical

class-mental

- void r( ):
  To get input of records of class mental
- void s( ):
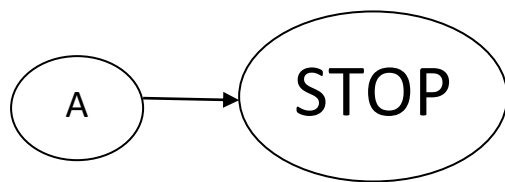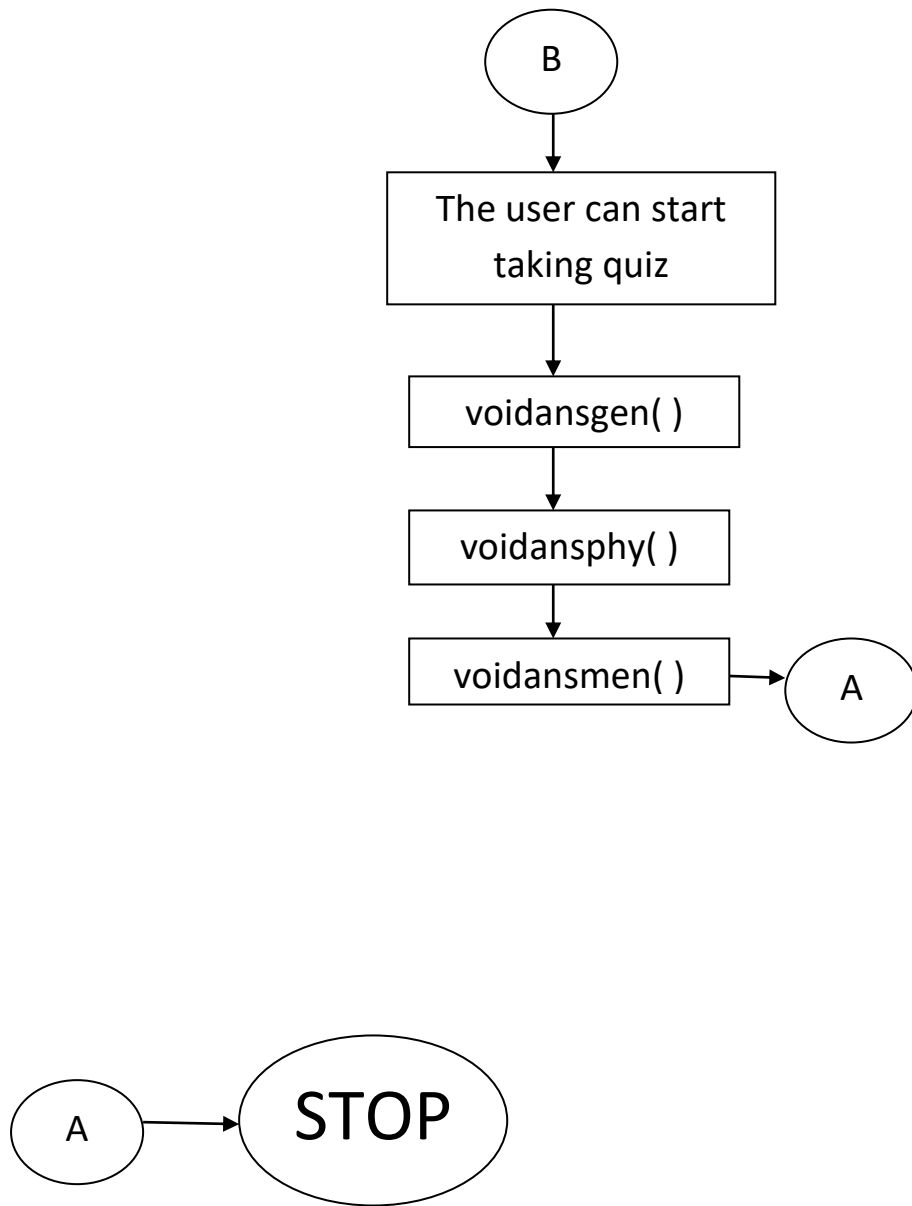 To display records of class mental

User-Defined Functions:

- intcheckid( ):
  To check if entered user ID already exists or not and returns integer value based on it
- void updet(char Id[10]):
  To update the details of a user who has already taken the quiz. Accepts the user ID as the parameter
- void cregen( ):
  To create questions regarding general health using file 'general.dat' based on class 'general'
- void crephy( ):
  To create questions regarding physical health using file 'physical.dat' based on class 'physical'
- void cremen( ):
  To create questions regarding mental health using file 'mental.dat' based on class 'mental'
- void ansgen( ):
  To answer general health questions by reading records (questions)from file 'general.dat' and display the results

- void ansphy( ):
  To answer physical health questions by reading records(questions) from file 'physical.dat' and display the results
- void ansmen( ):
  To answer mental health questions by reading records(questions) from file 'mental.dat' and display the results
- void addition( ):
  To add questions into files 'general.dat', 'physical.dat' and 'mental.dat' by accepting choice
- void update( ):
  To update questions in files 'general.dat', 'physical.dat' and 'mental.dat' by accepting choice
- void deletion(char idd[10])
  To delete a person's record from file 'details.dat' by accepting user ID as the parameter

FLOWCHART

```
                              START


              GET CHOICE IF USER OR ADMIN

                                              ADMIN/CHOICE 2

   USER/CHOICE 1

     Get Choice if user wants to        Get Admin name and ID and
     take test or delete details          check if it is correct

  TAKE TEST/CHOICE 2      DELETE/CHOICE 2

     Get choice if user is                Get choice from Admin if he
     here for the first time    void deletion( )    wants to add or update
         or not                                          questions

                                    A       ADD/CHOICE1      UPDATE/CHOICE 2

  FIRST TIME                NOT THE
  /CHOICE 1                 FIRST TIME/
                            CHOICE 2          void            void update( )
     Ask user to                            addition( )
     create ID

                                                   A              A
     voidcheckid( )

     Accept other
     details from      Display details by
     userusing  class  accepting ID and ask                  voidupdet( )
                       if the user wants to
                       update his details          Y
        B

                              12
```

```
        ( B )
          │
          ▼
┌─────────────────────┐
│   The user can start │
│     taking quiz      │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    voidansgen( )     │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    voidansphy( )     │
└─────────────────────┘
          │
          ▼
┌─────────────────────┐
│    voidansmen( )     │ ──────▶ ( A )
└─────────────────────┘




        ( A ) ──────▶ (  STOP  )
```

SOURCE CODE

```
/*Computer Science Project-Class XII A
Group members: K.Sowmya, S.Haripriyah, DhavalaSai Sri Mahita
 Topic: Online health centre
About: Analysing a patients's health under 3 categories:
      1.General health
2.Physical health
      3.Mental health*/
#include<fstream.h>
#include<string.h>
#include<iomanip.h>
#include<conio.h>
#include<snap.h>
#include<graphics.h>
#include<stdio.h>
#include<ctype.h>
#include<math.h>
#include<dos.h>
//class having main details of patient
class details{
      char name[30],bdgrp[5],gend;
      int age;
protected: char id[10];
public:void getdet(char ID[10]);
      char* retid();
            intretage();
            voidputdet();
            }D;
void details::getdet(char ID[10])
{
intcbg;
strcpy(id,ID);
cout<<"Name: ";
gets(name);
cout<<'\n';
cout<<"Age: ";
cin>>age;
```

```cpp
while((age<0)||(age>150))
{
cout<<"Enter valid age: ";
cin>>age;
}
cout<<'\n';
cout<<"Bloodgroup(If O+ve -> O+): ";
gets(bdgrp);
do{
if(strcmpi(bdgrp,"A+")==0)
cbg=1;
else if(strcmpi(bdgrp,"B+")==0)
cbg=2;
else if(strcmpi(bdgrp,"O+")==0)
cbg=3;
else if(strcmpi(bdgrp,"AB+")==0)
cbg=4;
else if(strcmpi(bdgrp,"A-")==0)
cbg=5;
else if(strcmpi(bdgrp,"B-")==0)
cbg=6;
else if(strcmpi(bdgrp,"O-")==0)
cbg=7;
else if(strcmpi(bdgrp,"AB-")==0)
cbg=8;
else
{
cbg=9;
cout<<"Enter valid Bloodgroup: ";
gets(bdgrp);
}
}while(cbg==9);
cout<<'\n';
cout<<"Gender(If Female->F,Male->M): ";
cin>>gend;
while((toupper(gend)!='M')&&(toupper(gend)!='F'))
{
cout<<"Enter valid gender: ";
cin>>gend;
}
```

```cpp
cout<<'\n';
}
char* details::retid()
{
return id;
}
int details::retage()
{
return age;
}
void details::putdet()
{
cout<<"ID: "<<id<<'\n';
cout<<"Name: "<<name<<'\n';
cout<<"Age: "<<age<<'\n';
cout<<"Bloodgroup: "<<bdgrp<<'\n';
cout<<"Gender: "<<gend<<'\n';
}
//class for general health
class general{
      char q[100],a[5][20];
public: void read();
      void show();
      }G;
void general::read()
{
cout<<"Enter question:";
gets(q);
for(int i=0;i<3;i++)
 {
cout<<"\nEnter option "<<(i+1)<<':';
gets(a[i]);
 }
}
void general::show()
{
cout<<q<<'\n';
for(int i=0;i<3;i++)
cout<<(i+1)<<'.'<<a[i]<<'\n';
cout<<'\n';
}
```

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```cpp
//class for physical health
class physical{
        char string[100];
    public: void getques()
            {
            gets(string);
    }
            voidputques()
    {
            cout<<string<<'\n';
    }
        }ph;
//class for mental health
class mental{
    char question[100],option[5][20];
public: void r();
    void s();
            }m;
void mental::r()
{
cout<<"Enter the question\n";
gets(question);
cout<<"Enter the options\n";
for(int k=0;k<4;k++)
gets(option[k]);
}
void mental::s()
{
cout<<"Q."<<question<<'\n';
for(inti=0;i<4;i++)
cout<<option[i]<<'\n';
cout<<'\n';
}
char i1[10];
int check1=1;
intcheckid();
voidupdet(char Id[10]);
voidcregen();
voidcrephy();
voidcremen();
voidansgen();
```

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```cpp
voidansphy();
voidansmen();
void addition();
void update();
void deletion(char idd[10]);
void main()
{
clrscr();
int choice;
intgdriver = DETECT,gmode;
intx,y,i;
initgraph(&gdriver,&gmode,"C:\\TC\\BGI");
 x=getmaxx()/2;
 y=getmaxy()/2;
for(i=30;i<200;i++)
 {
delay(100);
setcolor(i);
arc(x,y,0,180,i-10);
 }
outtextxy(310,250,"SHM");
cout<<'\n';
outtextxy(220,265,"Your health is our priority");
cout<<'\n';
outtextxy(295,280,"WELCOME");
cout<<'\n';
capture("C:\\TC\\Capture\\Capture1.jpg");
clrscr();
getch();
closegraph();
cout<<"Enter:\n1-If you are a user\n2-If you are an";
cout<<"admin: ";
cin>>choice;
while(choice!=1&&choice!=2)
 {
cout<<"Enter valid choice: ";
cin>>choice;
 }
clrscr();   //to clear previous outputs
```

```cpp
if(choice==1)
 {
intch;
cout<<"\nEnter:\n1-To take the test\n2-To delete a";
cout<<"person's record: ";
cin>>ch;
while(ch!=1&&ch!=2)
 {
cout<<"Invalid choice.Please enter the correct choice: ";
cin>>ch;
 }
clrscr();
if(ch==2)
 {
char i[10];
cout<<"\nEnter ID: ";
cin>>i;
ifstream f("details.dat",ios::binary);
if(f)
 {
int flag=0;
while(f.read((char*)&D,sizeof(D)))
 {
if(strcmp(D.retid(),i)==0)
 {
flag=1;
cout<<"Please verify the details of the person\n";
D.putdet();
 }
}
f.close();
if(flag==0)
{
cout<<'\n';
cout<<"The entered ID does not exist\n";
}
else
deletion(i);
 }
```

```cpp
else
cout<<"\nFile is not opening";
}
else
{
int c;
cout<<"\nEnter:\n1-If you are taking the quiz for the first time\n";
cout<<"2-If this is not your first time: ";
cin>>c;
while(c!=1&&c!=2)
{
cout<<"Invalid choice.\nPlease enter the correctchoice: ";
cin>>c;
}
clrscr();
if(c==1)
{
cout<<"SHM is committed to connecting people concerned about ";
cout<<"their health with reviewed health quizzes.We wish you to ";
cout<<"take a proactive approach to your wellness.\n";
cout<<"We will be assessing your General, Physical and Mental ";
cout<<"health.\n";
ifstream f1("details.dat",ios::binary);
if(f1)
{
int check=0;
cout<<"Create your ID(of form SHMxx): ";
cin>>i1;                         //declared globally
while(f1.read((char*)&D,sizeof(D)))
{
if(strcmp(D.retid(),i1)==0)
check=1;
}
f1.close();
while(check==1)
{
check=checkid();
}
if(check==0)
{
cout<<"Your ID has been successfully created\n";
```

```cpp
cout<<"Your ID is "<<i1<<'\n';
}
}
else
cout<<"File is not opening\n";
ofstreamfo("details.dat",ios::binary|ios::app);
if(fo)
{
D.getdet(i1);
fo.write((char*)&D,sizeof(D));
fo.close();
}
else
cout<<"File is not opening\n";
}
else
{
chariddd[10];
cout<<"Welcome back.We are delighted that you chose us again\n";
cout<<"\nEnter ID: ";
cin>>iddd;
updet(iddd);
}
if(check1!=0)
{
cout<<'\n';
cout<<"Lets's get started!";
delay(5000);//to let the screen wait
clrscr();
int j;
cout<<"The first round is the General health round\n";
ansgen();
for(j=1;j<=79;j++)
cout<<"*";
cout<<'\n';
delay(10000);
clrscr();
cout<<"The second round is the Physical health round\n";
ansphy();
for(j=1;j<=79;j++)
cout<<"*";
```

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```cpp
delay(15000);
clrscr();
cout<<"The third round is the Mental health round\n";
ansmen();
for(j=1;j<=79;j++)
cout<<"*";
delay(10000);
clrscr();
cout<<"THANKS FOR CHOOSING US!:)\n";
cout<<"Hope you had a comfortable experience\n";
cout<<"Do recommend us to others\n";
}
}
}
else
{
char user[20],password[10];
cout<<setw(450)<<"Welcome ADMIN\n";
cout<<"Enter username:\n";
gets(user);
cout<<"Enter password:\n";
gets(password);
if(strcmp(user,"SHM")==0)
{
if(strcmp(password,"SHM122723")==0)
{
int cc;
cout<<"Enter\n1.If you want to add questions\n";
cout<<"2.If you want to update questions:\n";
cin>>cc;
while(cc!=1&&cc!=2)
{
cout<<"Enter valid choice: ";
cin>>cc;
}
clrscr();
if(cc==1)
addition();
else
update();
}
```

```cpp
else
cout<<"Password is invalid\n";
}
else
cout<<"Username is invalid\n";
}
getch();
}
//function to check id entered by user
intcheckid()
{
int f=0;
char x[10];
cout<<"ID already exists.\nPlease enter a different
strcpy(i1,x);
ifstream fc("details.dat",ios::binary);
if(fc)
{
while(fc.read((char*)&D,sizeof(D)))
 {
if(strcmp(D.retid(),x)==0)
   f=1;
 }
fc.close();
 }
else
cout<<"File is not opening\n";
return f;
}
//function to update the details of a person who has already come
voidupdet(char Id[10])
{
fstream fi("details.dat",ios::binary|ios::in|ios::out);
if(fi)
 {
int flag=0,pos=0;
while(fi.read((char*)&D,sizeof(D)))
 {
if(strcmp(D.retid(),Id)==0)
  {
charcho;
```

```cpp
flag=1;
cout<<"Please verify the details of the person\n";
D.putdet();
cout<<"Do you wish to update your details.";
cout<<"If yes, enter Y\n";
cin>>cho;
if(toupper(cho)=='Y')
   {
details du;
cout<<"Enter your details:\n";
du.getdet(Id);
fi.seekp(pos);
fi.write((char*)&du,sizeof(D));
cout<<"Details have been updated\n";
break;
   }
else
   {
cout<<"OK! So you wish to continue with the same details\n";
break;
   }
}
pos=fi.tellg();
}
fi.close();
if(flag==0)
{
cout<<'\n';
  check1=0;        //declared globally
cout<<"The ID does not exist.";
cout<<"You haven't taken the quiz";
 }
 }
else
cout<<"The file is not opening\n";
}
//function for creating general health questions
voidcregen()
{
charch;
ofstream f("general.dat",ios::binary|ios::app);
```

```cpp
if(f)
 {
do{
G.read();
f.write((char*)&G,sizeof(G));
cout<<"\nEnter Y to continue:";
cin>>ch;
cout<<"\n";
}while(toupper(ch)=='Y');
f.close();
 }
 else
 cout<<"File is not created\n";
}
//function for creating physical health questions
voidcrephy()
{
ofstreamfp;
fp.open("physical.dat",ios::binary|ios::app);
charch;
if(fp)
 {
cout<<"Enter questions one by one ";
cout<<"Enter N if u want to stop entering\n";
do{
ph.getques();
fp.write((char*)&ph,sizeof(ph));
cin>>ch;
}while(toupper(ch)!='N');
fp.close();
 }
 else
 cout<<"File is not created\n";
}
//function for creating mental health questions
voidcremen()
{
char c;
ofstream fin("mental.dat",ios::binary|ios::app);
if(fin)
 {
```

```cpp
do{
m.r();
fin.write((char*)&m,sizeof(mental));
cout<<"Enter y to continue\n";
cin>>c;
}while(c=='y'||c=='Y');
fin.close();
 }
else
cout<<"File is not created\n";
}
//function for answering general health questions
voidansgen()
{
intop,B[50],k=0,tot=0;
ifstream f1("general.dat",ios::binary);
if(f1)
 {
cout<<"Enter your option for the following questions\n";
while(f1.read((char*)&G,sizeof(general)))
 {
G.show();
cout<<"Ans: ";
cin>>op;
while(op!=1&&op!=2&&op!=3&&op!=4)
  {
cout<<"Please enter correct option: ";
cin>>op;
  }
if(op==1)
   B[k]=3;
else if(op==2)
   B[k]=2;
else if(op==3)
   B[k]=1;
k++;
 }
for(inti=0;i<k;i++)
tot=tot+B[i];
cout<<'\n';
for(int j=1;j<=79;j++)
```

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```cpp
cout<<"*";
cout<<'\n';
cout<<"Your results for General Health:\n\n";
cout<<"YOUR SCORE OUT OF "<<(3*k)<<" IS: "<<tot<<'\n';
if(tot>(2*k))
{
cout<<"You are healthy and fit. All the best for your healthy ";
cout<<"journey\n";
}
else if(tot<=(2*k)&&tot>(1*k))
{
cout<<"You are ok but you can do better.";
cout<<"Avoid unhealthy eating habits\n";
}
else
{
cout<<"You are not at your best. Please avoid junk food and ";
cout<<"workout more\n";
}
f1.close();
 }
else
cout<<"File is not opening\n";
}
//function for answering physical health questions
voidansphy()
{
ifstreamfp;
fp.open("physical.dat",ios::binary);
int A[50],i=1,j;
charans;
floatbmi,h,w,lc,uc,r;
if(fp)
 {
cout<<"Enter Y or N for each and every question\n";
while(fp.read((char*)&ph,sizeof(ph)))
  {
ph.putques();
if(i==1)
{
if(D.retage()>=18)
```

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```cpp
{
cout<<"Enter height(in m): ";
cin>>h;
cout<<"Enter weight(in kg): ";
cin>>w;
bmi=w/pow(h,2);
if(bmi<18.5)
A[i]=-1;
else if(bmi>=18.5&&bmi<=22.5)
A[i]=0;
else
A[i]=1;
}
else
{
cout<<"You need not calculate BMI as your age is";
cout<<"less than 18 years\n";
}
}
else
{
cout<<"Ans: ";
cin>>ans;
while((toupper(ans)!='Y')&&(toupper(ans)!='N'))
 {
cout<<"Enter vaild answer: ";
cin>>ans;
 }
if(toupper(ans)=='Y')
A[i]=1;
else
A[i]=0;
}
i++;
}
cout<<'\n';
for(int k=1;k<=79;k++)
cout<<"*";
cout<<'\n';
cout<<"Your results for Physical Health:\n\n";
for(j=1;j<=i;j++)
```

```cpp
{
if(j==1)
{
cout<<"Results for BMI:"<<'\n';
if(D.retage()>=18)
{
if(A[j]==-1)
cout<<"You are underweight. Take care of your health\n";
else if(A[j]==1)
cout<<"You are obese.Take care of your health\n";
else
cout<<"Your BMI is normal\n";
}
else
{
cout<<"You don't need to know your BMI level as you are ";
cout<<"underaged\n";
}
}
if(j==2)
{
cout<<"Results for BP:\n";
if(A[j]==1)
{
cout<<"Enter your lower and upper limit of bp\n";
cin>>lc>>uc;
if((80<=lc&&lc<=90)&&(uc>=110&&uc<=120))
cout<<"Your bp levels are normal\n";
else
    {
cout<<"Your bp levels are abnormal.";
cout<<"Take care of your heart\n";
    }
}
else
cout<<"You wont get bp\n";
}
if(j==3)
{
cout<<"Results for Cholestrol:\n";
if(A[j]==1)
```

```cpp
{
cout<<"Enter your cholestrol level\n";
cin>>r;
if(r>=180&&r<=220)
{
cout<<"Your cholestrol levels are normal.";
cout<<"You wont get attack\n";
}
else
{
cout<<"Cholestrol levels are very alarming.";
cout<<"You may get a heart attack\n";
}
}
else
cout<<"Your heart is functioning normally\n";
}
if(j==4)
{
cout<<"Results for Diabetes:\n";
if(A[j]==1)
cout<<"If your parents have diabetes,you might get it\n";
else
cout<<"Sugar levels in your body is perfect\n";
}
if(j==5)
{
cout<<"Results for Thyroid:\n";
if(A[j]==1)
cout<<"You may get thyroid\n";
else
cout<<"Your thyroid levels are normal\n";
}
if(j==6)
{
cout<<"Results for Vitamin D:\n";
if(A[j]==1)
cout<<"You will have enough vitamin D in your body\n";
else
cout<<"You need to get Vitamin D.Stand in the sun\n";
}
```

```cpp
if(j==7)
{
cout<<"Results for Vitamin B12:\n";
if(A[j]==1)
cout<<"Check your vitamin B12 levels\n";
else
cout<<"Your vitamin B12 levels are normal\n";
}
if(j>8)
{
cout<<"Other results:\n";
if(A[j]==1)
cout<<"Your body is normal\n";
else
cout<<"Take care of your body\n";
cout<<'\n';
}
}
fp.close();
 }
else
cout<<"File is not opening\n";
}
//function for answering mental health questions
voidansmen()
{
intna=0,lit=0,some=0,tot=0,ext=0,q=0;
intch;
ifstreamfin("mental.dat",ios::binary);
if(fin)
{
cout<<"Enter your option for the following questions\n";
while(fin.read((char*)&m,sizeof(mental)))
  {
m.s();
cout<<"Ans: ";
cin>>ch;
while(ch!=1&&ch!=2&&ch!=3&&ch!=4)
{
cout<<"Enter valid option: ";
```

```cpp
cin>>ch;
}
switch(ch)
{
case 1:na++;break;
case 2:lit++;break;
case 3:some++;break;
case 4:ext++;break;
}
tot=3*ext+2*some+1*lit;
q++;
 }
cout<<'\n';
for(int j=1;j<=79;j++)
cout<<"*";
cout<<'\n';
cout<<"Your results for Mental Health:\n\n";
cout<<"You are mentally healthy if your score is low\n";
cout<<"Your score is "<<tot<<" out of "<<(3*q)<<'\n';
if(tot>=(2.5*q))
 {
cout<<"Your score falls in the high range region.";
cout<<"You are experiencing significant depression ";
cout<<"and it is recommended to see a doctor\n";
 }
else if(tot>=(1.5*q)&&tot<(2.5*q))
 {
cout<<"Your score falls in the moderate region.";
cout<<"It is time to get help.Try talking about";
cout<<"your problems to someone\n";
 }
else if(tot>=(0.5*q)&&tot<(1.5*q))
 {
cout<<"You have some signs that may indicate depression.";
cout<<"Please take care\n";
}
```

```cpp
else
 {
cout<<"You do not show any sign of depression.";
cout<<"Those low feelings will probably go away";
cout<<"after the problem passes\n";
 }
fin.close();
}
else
cout<<"File is not opening\n";
}
//function to add questions
void addition()
{
intch;
char c;
cout<<"Enter 1 to add questions into general health category\n";
cout<<"Enter 2 to add questions into physical health category\n";
cout<<"Enter 3 to add questions into mental health category\n";
cin>>ch;
while(ch!=1&&ch!=2&&ch!=3)
 {
cout<<"Enter valid choice: ";
cin>>ch;
 }
clrscr();
if(ch==1)
 {
ofstreamf2("general.dat",ios::binary|ios::app);
if(f2)
 {
cout<<"Enter question you need to add alongwith the options\n";
do{
G.read();
f2.write((char*)&G,sizeof(G));
cout<<"Enter Y if you want to continue entering questions:\n";
cin>>c;
}while(toupper(c)=='Y');
f2.close();
}
```

```cpp
else
cout<<"File is not created\n";
 }
else if(ch==2)
 {
ofstream f2("physical.dat",ios::binary|ios::app);
if(f2)
  {
cout<<"Enter question you need to add\n";
do{
ph.getques();
f2.write((char*)&ph,sizeof(ph));
cout<<"Enter y if you want to continue entering questions:\n";
cin>>c;
}while(toupper(c)=='Y');
f2.close();
  }
else
cout<<"File is not opening\n";
}
else if(ch==3)
{
ofstream f2("mental.dat",ios::binary|ios::app);
if(f2)
  {
cout<<"Enter question you need to add alongwith the options\n";
do{
m.r();
f2.write((char*)&m,sizeof(m));
cout<<"Enter y if you want to continue entering questions:\n";
cin>>c;
}while(c=='y'||c=='y');
f2.close();
  }
else
cout<<"File is not opening\n";
}
}
```

```cpp
//function to update questions
void update()
{
intch;
cout<<"Enter the correct option to update the particular file\n";
cout<<"Enter:\n1-General Health\n2-Physical health\n";
cout<<"3-Mental health\n";
cin>>ch;
while(ch!=1&&ch!=2&&ch!=3)
 {
cout<<"Enter valid choice: ";
cin>>ch;
 }
clrscr();
fstreamfu;
intqno;
char choice;
if(ch==1)
 {
fu.open("general.dat",ios::in|ios::out|ios::binary);
if(fu)
  {
generalupd;
do{
cout<<"Enter question number you would want to update: ";
cin>>qno;
while(qno<1)
{
cout<<"Enter valid question number: ";
cin>>qno;
}
cout<<"Enter the updated question alongwith the options\n";
upd.read();
fu.seekg((qno-1)*sizeof(G));
fu.write((char*)&upd,sizeof(upd));
cout<<"Enter Y if you want to continue updating questions\n";
cin>>choice;
}while(toupper(choice)=='Y');
fu.close();
  }
```

```cpp
else
cout<<"File is not opening\n";
}
else if(ch==2)
{
fu.open("physical.dat",ios::in|ios::out|ios::binary);
if(fu)
{
physicalupd;
do{
cout<<"Enter question number you would want to update: ";
cin>>qno;
while(qno<1)
{
cout<<"Enter valid question number: ";
cin>>qno;
}
cout<<"Enter the updated question\n";
upd.getques();
fu.seekg((qno-1)*sizeof(ph));
fu.write((char*)&upd,sizeof(upd));
cout<<"Enter Y if you want to continue updating questions\n";
cin>>choice;
}while(toupper(choice)=='Y');
fu.close();
}
else
cout<<"File is not opening\n";
}
else if(ch==3)
{
fu.open("mental.dat",ios::in|ios::out|ios::binary);
if(fu)
{
mentalupd;
do{
cout<<"Enter question number you would want to update: ";
cin>>qno;
while(qno<1)
{
cout<<"Enter valid question number: ";
```

```cpp
cin>>qno;
}
cout<<"Enter the updated question alongwith the options\n";
upd.r();
fu.seekg((qno-1)*sizeof(m));
fu.write((char*)&upd,sizeof(upd));
cout<<"Enter Y if you want to continue updating questions\n";
cin>>choice;
}while(toupper(choice)=='Y');
fu.close();
 }
else
cout<<"File is not opening\n";
 }
}
//function to delete a person's details
void deletion(char idd[10])
{
ifstream f1("details.dat",ios::binary);
ofstream f2("temp.dat",ios::binary);
if(f1)
 {
while(f1.read((char*)&D,sizeof(D)))
 {
if(strcmp(D.retid(),idd)!=0)
f2.write((char*)&D,sizeof(D));
 }
f2.close();
f1.seekg(0,ios::end);
if(f1.tellg()==0)
cout<<"The person's record could not be deleted\n";
else
cout<<"The person's record has been deleted\n";
f1.close();
 }
else
cout<<"File is not opening\n";
remove("details.dat");
rename("temp.dat","details.dat");
}
```
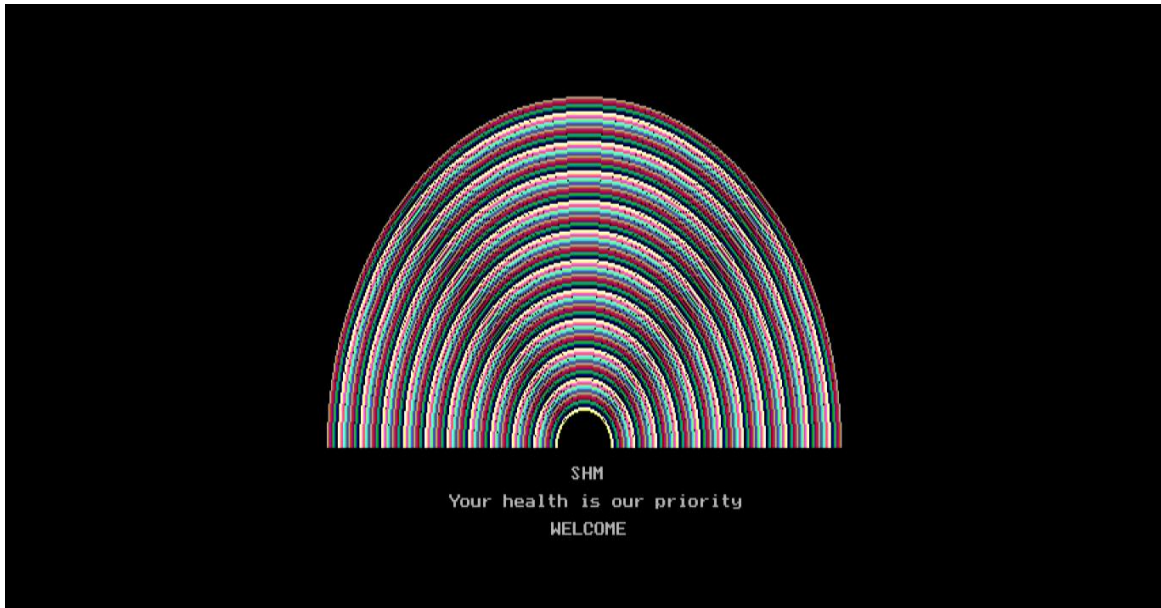
OUTPUT SCREENS

OUTPUT I: AS A USER


```
SHM
Your health is our priority
WELCOME
```



```
Enter:
1-If you are a user
2-If you are an admin: 1_
```

```
Enter:
1-To take the test
2-To delete a person's record: 1
```

```
Enter:
1-If you are taking the quiz for the first time
2-If this is not your first time: 1_
```

```
SHM is committed to connecting people concerned about their health with reviewed
 health quizzes.We wish you to take a proactive approach to your wellness.
We will be assessing your General, Physical and Mental health.
Create your ID(of form SHMxx): SHM24
Your ID has been successfully created
Your ID is SHM24
Name: Bob

Age: 19

Bloodgroup(If O+ve -> O+): A+

Gender(If Female->F,Male->M): M


Lets's get started!_
```

```
The first round is the General health round
Enter your option for the following questions
Q.How often do you have carbonated drinks?
1.Almost never
2.Once in a while
3.Very often

Ans: 2
Q.How often do you have fried food?
1.I rarely have it
2.Once in a while
3.Often

Ans: 2
When did you go to bed on average in the last 6 months?
1.Before 11:00pm
2.11:pm-1:00am
3.After 1:00am

Ans: 1_
```

```
Q.Do you have Insomnia(Difficulty to fall asleep)?
1.I don't have
2.Yeah, occasionally
3.Yeah, always

Ans: 1
Q.Do you smoke?
1.Never
2.Yes, sometimes
3.I am a heavy smoker

Ans: 1
Q.How often do you have alcohol?
1.Never
2.I seldom drink
3.I get drunk often

Ans: 1
Q.How often do you clean your room?
1.Once in 1-2 weeks
2.Once a month
3.Rarely

Ans: 2_
```

```
Q.How often do you clean your room?
1.Once in 1-2 weeks
2.Once a month
3.Rarely

Ans: 2
Q.How often do you exercise?
1.Almost daily
2.Once a week
3.I seldom exercise

Ans: 3

*******************************************************************************
Your results for General Health:

YOUR SCORE OUT OF 24 IS: 19
You are healthy and fit.All the best for your healthy journey
*******************************************************************************

_
```

```
The second round is the Physical health round
Enter Y or N for each and every question
1.To enter BMI details. What is your height and weight?
Enter height(in m): 1.64
Enter weight(in kg): 58
2.Do you have severe headache, fatigue, irregular heartbeat?
Ans: Y
3.Have you ever had a heart attack?
Ans: N
4.Do you get hungry often and do you have a dry tongue?
Ans: N
5.Have you gained weight and have hairloss?
Ans: Y
6.Do you atleast stand in the Sun for 30 minutes?
Ans: N
7.Do you have pale skin?
Ans: N_
```

```
7.Do you have pale skin?
Ans: N

********************************************************************************
Your results for Physical Health:

Results for BMI:
Your BMI is normal
Results for BP:
Enter your lower and upper limit of bp
80
120
Your bp levels are normal
Results for Cholestrol:
Your heart is functioning normally
Results for Diabetes:
Sugar levels in your body is perfect
Results for Thyroid:
You may get thyroid
Results for Vitamin D:
You need to get Vitamin D.Stand in the sun
Results for Vitamin B12:
Your vitamin B12 levels are normal
********************************************************************************
```

```
    The third round is the Mental health round
    Enter your option for the following questions
    Q.Have you been bothered by feeling down, depressed or hopeless?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 1
    Q.Have you been bothered that you have little interest in doing things?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 1
    Q.Have you been bothered by having trouble falling asleep or sleeping too much?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 1_
```

```
    Q.Have you been bothered about your appetite, weight loss or overeating?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 2
    Q.Have you been bothered about feeling tired or having little energy?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 3
    Q.Have you been bothered by feeling bad about yourself and thinking that you are
     a failure?
    1.not at all
    2.little bit
    3.somewhat
    4.extremely

    Ans: 2_
```

```
Q.Have you been bothered that you have trouble concentrating on things?
1.not at all
2.little bit
3.somewhat
4.extremely

Ans: 4
Q.Have you been bothered by your thoughts that you would be better off dead?
1.not at all
2.little bit
3.somewhat
4.extremely

Ans: 1

*****************************************************************************
Your results for Mental Health:

You are mentally healthy if your score is low
Your score is 5 out of 24
You have some signs that may indicate depression.Please take care
*****************************************************************************
```
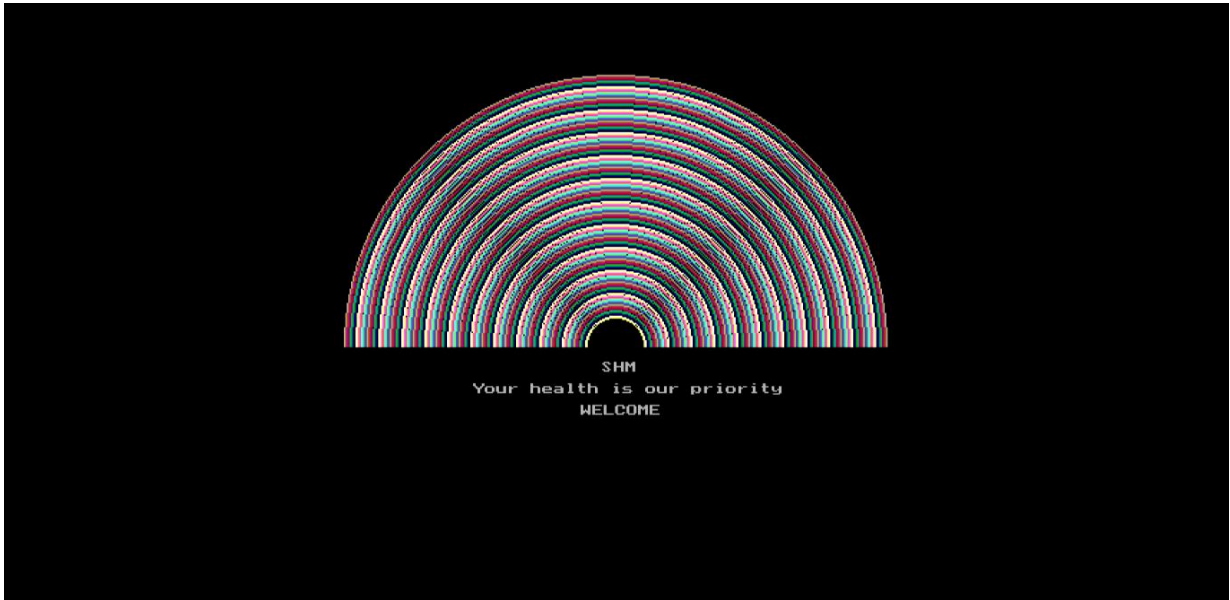
```
THANKS FOR CHOOSING US!:)
Hope you had a comfortable experience
Do recommend us to others
```

OUTPUT II: AS AN ADMIN


```
Enter:
1-If you are a user
2-If you are an admin: 2
```

```
                              Welcome ADMIN
Enter username:
SHM
Enter password:
SHM122723
Enter
1.If you want to add questions
2.If you want to update questions:
2
```

```
Enter the correct option to update the particular file
Enter:
1-General Health
2-Physical health
3-Mental health
1
```

```
Enter question number you would want to update: 1
Enter the updated question alongwith the options
Enter question:Q.How often do you intake carbonated drinks?

Enter option 1:Not at all

Enter option 2:Once in a while

Enter option 3:Very often
Enter Y if you want to continue updating questions
N
_
```

CONCLUSION

Coding the project was a great experience, as it helped me learn much about C++.It laid a great opportunity to strengthen all the concepts involved in coding and also allowed me to explore a little beyond syllabus.

During the coding stage, I learnt the importance of considering even blow by blow aspects and taking care of it, so as to make the program run successfully.

This project also helped me realise the ocean of possibilities and opportunities in the world of programming and it has definitely helped me become a better programmer too.

I have given my very best in completing my project. I am grateful to everyone who has believed in me and provided me the support, encouragement and guidance that I needed to complete this project on time.

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FURTHER IMPROVEMENTS

I have put in so much effort in doing this project. Yet, I could have enhanced our program in many ways.

I could have ported this project for android, IOS and other mobile computing systems. Introducing additional elements like storing the answers given by the user in a file would have made the project more user friendly.

I could have included more graphics and colourful output statements to make the project attractive.