GYM MANAGEMENT SYSTEM

TITLE :miniproject

PROBLEM STATEMENT : to design a gym management system for the user

DATA STRUCTURE USED : doubly linked list

Doubly Linklist is a dynamic data structure . In the linklist insertion an deletion is easy .It can be traversed from both sides

It's time complexity is better than singly linked list

DETAILS ABOUT DESIGNING :

CLASSES USED :

1.user

2.gym

FUNCTIONS USED :

1.**class user**

  1.void fat_loss() – consists the details of the exercices of the fat loss

  2.void biceps_building – consists the details of the exercices of the
                                biceps building

  3. void muscle_building – consists the details of the exercises of the
                              Muscle building

  4.void full_body_toning – consists the details of the exercises of the
                              Full body toning

  5.void cardio - consists the details of the exercises of the
                Cardio

  6.void veg() – consists the diet plans of the vegiterian

  7. void non_veg() – consists the diet plans of the non- vegiterian

  8.void subscription(int a) – consists of the subscription details of the
                customer

2.class gym

1. user* accept() – accept the login details of the user

2. void append_node(user* temp) – append the node to the linkedlist

3. void display(user* temp) – display the details of the user

4. void calc_bmi(user* ptr) – calculate the bmi of the trainer

5. void searchmember() – contains the login details of the customer

6. void updatedetails() – user can update his / her details

7. void calculatecalories() – user can calculate the calories of the trainer

8. void diet() – contains the diet plans both for vegiterian and nonvegiterian

ALGORITHMS OF GYM

user* gym :: accept()

1.1   declare temp ,ptr of type user
1.2   accept username , password , contact no , gender , height , weight ,age , motive
1.2.1 validations for
1.2.1.1   password – should be of minimum length of 5
1.2.1.2   contact no must contain exact 10 digits
1.2.1.3   gender – M or F if not shows then invalid
1.2.1.4   height –should be less than 10
1.2.1.5   weight = should be in range of 20- 150
1.2.1.6   age – should be in range 18-70

1.3   enter the motives
1.3.1 by using switch cases
1.3.2 select ch
    Begin
    case 1 : fat loss
    case 2 :muscle building
    case 3 : biceps building
    case 4 : cardio
    case 5 : full body toning
    case 0 : exit
    default

VOID GYM :: SEARCH()

1.declare ptr of type user

2.accept username

3. while(ptr!= NULL)

    do

        3.1 if(ptr->name== id)

            Repeat till flag not equal to 1

        3.1.2 accept the password

            3.1.2.1 if(ptr->id == password)

                3.1.2.1.1 display information

                3.1.2.1.2 break the case of if

            3.1.2.2 invalid password enter again

            3.1.2.3 validation for password

            3.1.2.3.1 if password is forgottan or not

            3.1.2.3.2 if yes reset else re-enter password

                3.1.2.3.2.1ptr = ptr->next

            3.1.2.3.3 end if

                3.1.2.3.3 if (flag == 0)

                3.1.2.3.3.1 show you haven't registered yet

            3.1.2.3.4 end if

        3.2 end if

VOID GYM :: UPDATE DETAILS()

1. declare the pointer ptr of type user
2. accept username
3. ptr = head
4. while(ptr!=NULL)
    do
      4.1if(ptr->name == id)
          4.1.1 member found
          4.1.2 update information
          4.1.3 accept user info and display
          4.1.4 break if
      4.2 end if
      4.3 ptr = ptr->next

5. end while

6. if(flag == 0)

   6.1 member not found

7. end if

VOID GYM : : CALC_CALORIES()

1. declare ptr of type user

2. ptr = head

3. accept the password

4. while(ptr!= NULL)

   do

   4.1   if(password == ptr->id)
          4.1.2 flag = 1
          4.1.3 break if

   4.2 end if

   4.3 else

          4.3.1 flag = 0

   4.4 end else

   4.5 ptr = ptr->next

5 . end while

6 .if(flag == 1)

   6.1 calculate daily calorie count by using switch cases

   6.2 select choice

   6.3 start

          6.3.1 case 1 : calculate calories for trademill

                 6.3.1. 1calories burnt = i*calories/min

                 6.3.1.2break

          6.3.2 case 2 : calculate calories for pushups

                 6.3.2.1 calories burnt = i*calories/min

                 6.3.2.2 break

          6.3.3 case 3 : calculate calories for situps

6.3.3.1 calories burnt = $i*calories/min$

6.3.3.2 break

6.3.4 case 4 : calculate calories for pullups

6.3.4.1 calories burnt = $i*calories/min$

6.3.4.2 break

6.3.5 case 5 : calculate calories for squats

6.3.5.1 calories burnt = $i*calories/min$

6.3.5.2 break

6.3.6 case 6 : calculate calories for plattipus walks

6.3.6.1 calories burnt = $i*calories/min$

6.3.6.2 break

6.3.7 case 7 : calculate calories for crunches

6.3.7.1 calories burnt = $i*calories/min$

6.3.7.2 break

6.3.8 case 8 : calculate calories for hypertension

6.3.8.1 calories burnt = $i*calories/min$

6.3.8.2 break

6.3.9 case 9 : calculate calories for hammer curls

6.3.9.1 calories burnt = $i*calories/min$

6.3.9.2 break

6.4 end switch

6.5 ptr->total_calorie = ptr->total_calorie + calories_burnt

6.6 display total no of calories burnt today

6.7 repeat above statement till choice = yes

7 end if

8 else

8.1 you haven't registered

9 end else

10 stop

VOID GYM :: DIET()

1 declare pointer ptr of type user

2   ptr = head
3   accept user password
4   while(ptr!= NULL)
4.1   if(id->password == ptr->id)
4.1.1 flag = 1
4.1.2 break
4.2   end if
4.3   else
4.3.1 flag= 0
4.4   end else
4.5   ptr = ptr->next
  5. end while
  6. if(flag == 1)
      6.1   accept whether you want veg or nonveg diet
      6.2   select choice
      6.3   switch case
        6.3.1 display veg diet
          6.3.1.1   break
        6.3.2 display nonveg diet
          6.3.2.1   break
      6.4   end switch
  7. end if
  8. else
      8.1   you havan't registered
  9. end else

10 . stop

VOID GYM :: CACLE_BMI()

1.declare ptr of type user

2.calculate bmi by using formula of bmi

3.validations for bmi

    3.1 bmi<18.5 – underweight

    3.2 bmi>18.5 || bmi<24.9 – ideal personality

    3.3 bmi>25 || bmi<29.9 – overweight

    3.4 bmi>30 – obesity

VOID GYM :: APPEND_NODE()

1. accept pointer ptr and temp of type user
2. if(head == NULL)
   2.1 head = temp
3. end if
4. else
   4.1 ptr = head
   4.2 while(ptr->next != NULL)
      4.2.1 ptr = ptr->next
   4.3 end while
   4.4 ptr->next = temp
   4.5 temp->prev = ptr
5. end else
6. stop

VOID GYM:: DISPLAY()

1. declare temp of type user
2. if(head = NULL)
   2.1 list is empty
3. end if
4. if(temp != NULL)
   4.1 display the details of the person
5   end if
6   stop

VOID USER :: SUBSCRIPTION(INT A)

1. show menu for workouts
2. select choice
3. switch case
   3.1 case 1 -fat loss
   3.1.1 case 1 – 1 month
   3.1.2 case 2 – 6month
   3.1.3 case 3 – 12month
   3.2 case2 -muscle building
   3.2.1 case 1 – 1 month

3.2.2 case 2 – 6 month

3.2.3 case 3 – 12 month

3.3 case 3– biceps buildings

3.3.1 case 1 – 1 month

3.3.2 case 2 – 6 month

3.3.3 case 3 – 12 month

3.4case 4- cardio

3.4.1 case 1 – 1 month

3.4.2 case 2 – 6 month

3.4.3 case 3 – 12 month

3.5 case 5 -full body toning

3.5.1 case 1 – 1 month

3.5.2 case 2 – 6 month

3..3 case 3 – 12 month

4. end switch case

5 stop

Output

*********WELCOME TO GYM MANAGEMENT SYSTEM*********

********MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

****

Enter your choice:

5

First accept the details of person

Re-enter your choice::

1

Enter your username :riya

Enter your password (at least 5 digits): 23

password must be greater than or equal to 5

Re-enter password :

12345

Enter your contact number 6543

Invalid contact no.

Enter your contact number 2233445566

Enter your gender (press 'M' or 'F'):q

INVALID CHOICE

.

Enter the valid gender (press 'M' or 'F'):F

Enter your height (in m) :12

*****HEIGHT ENTERED IS INVALID****

    Enter your height (in m) 5

Enter your weight (in kg)161

****WEIGHT ENTERED IS INVALID****

    Enter your weight(in kg)

54

Enter your age 101

Sorry, your age is not valid to join gym

Enter the valid age55

** MOTIVES TO JOIN THE GYM **

1.FAT LOSS

2.MUSCLE BUILDING

3.BICEPS BUILDING

4.CARDIO

5.FULL BODY TONING

****

select your motive to join the gym

1

WORKOUT FOR FAT LOSS

1.ELBOX PLANK

2.CRUNCHES

3.HYPEREXTENTION

4.ROPE JUMPING

SUBSCRIPTION FOR FAT LOSS :

*********SUBSCRIPTION************

1. 1 MONTH   : 3000

2. 6 MONTH   : 6000

3. 12 MONTH   : 12000

****

Enter your choice

1

    FOR 1 MONTH

SUBSCRIPTION SUCCESSFUL !!!!!!!!!!!!!!!

fees paid   : 3200

********MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

****

Enter your choice:

2

Enter the username

riya

Enter the password

23456

INVALID PASSWORD ENTER THE PASSWORD AGAIN

have you forgot password(y/Y/n/N)

n

Enter the password

12345

************* DETAILS ARE**************

ID of member   ::12345

Name of member   ::riya

Contact no. of member::2233445566

Gender   ::F

Height   ::5

Weight   ::54

Age   ::55

```
MOTIVE          :fat loss

subscription    :3200

********************************

*******MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

********************

Enter your choice:

3

BMI :2.16Person is UNDERWEIGHT

********MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

********************

Enter your choice:

4

Enter the username

riya

MEMBER FOUND

UPDATE INFORMATION
```

Enter your username :rutu

Enter your password (at least 5 digits): 23456

Enter your contact number 1122334455

Enter your gender (press 'M' or 'F'):F

Enter your height (in m) :6

Enter your weight (in kg)44

Enter your age 34

** MOTIVES TO JOIN THE GYM **

1.FAT LOSS

2.MUSCLE BUILDING

3.BICEPS BUILDING

4.CARDIO

5.FULL BODY TONING

****

select your motive to join the gym

2

WORKOUT FOR MUSCLE BUILDING

1.BARBELL SQUAT

2.BARBELL BENCH PRESS MEDIUM GRIP

3.BENT OVER BARBELL ROW

4.PULLUPS

SUBSCRIPTION FOR MUSCLE BUILDING

*********SUBSCRIPTION************

1. 1 MONTH   : 5000

2. 6 MONTH   : 10000

3. 12 MONTH   : 15000

****

Enter your choice

2

        FOR 6 MONTHS

SUBSCRIPTION SUCCESSFUL !!!!!!!!!!!!!!!

fees paid   : 10200

************* DETAILS ARE***************

ID of member   ::23456

Name of member   ::rutu

Contact no. of member::1122334455

Gender   ::F

Height   ::6

Weight   ::44

Age   ::34

MOTIVE   ::muscle building

subscription   ::10200

****

*******MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

****

Enter your choice:

5

Enter your password 12345

DAILY CALORIE COUNT

*********EXERCISE WISE CALORIE COUNT*** ******

1.TREADMILL

2.PUSHUPS

3.SITUPS

4.PULLUPS

5.SQUATS

6.PLATIPUS WALKS

7.CRUNCHES

8.HYPERTENSION

9.HAMMER CURLS

Enter the your fitness plan code followed 3

How much time did u exercise or no. of push-ups/situps/pullups done 2

Total calories by customer 12345 burnt today are 1.14

Do you want to add more y/n n

*******MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

****

Enter your choice:

6

Enter the your id no. 12345

*******DIET******

Enter whether you prefer veg/non-veg

1. Veg

2.Non-Veg

1

**********VEG DIET**********

1.FAT LOSS

2.BICEPS BUILDING

3.WEIGHT GAIN

For which exercise plan are you looking for 2

BICEPS BUILDING

BREAKFAST : Cow's milk + Banana , sprout chaat

LUNCH : Green vegetables , mashed potatoes , papaya / Dragon fruit

DINNER : Spinach and black pepper ********MENU*******

1.NEW USER : SIGH UP

2.LOGIN

3.CALCULATE BMI

4.UPDATE DETAILS

5.CALCULATE CALORIES

6.DIET

7.EXIT

****

Enter your choice:

1
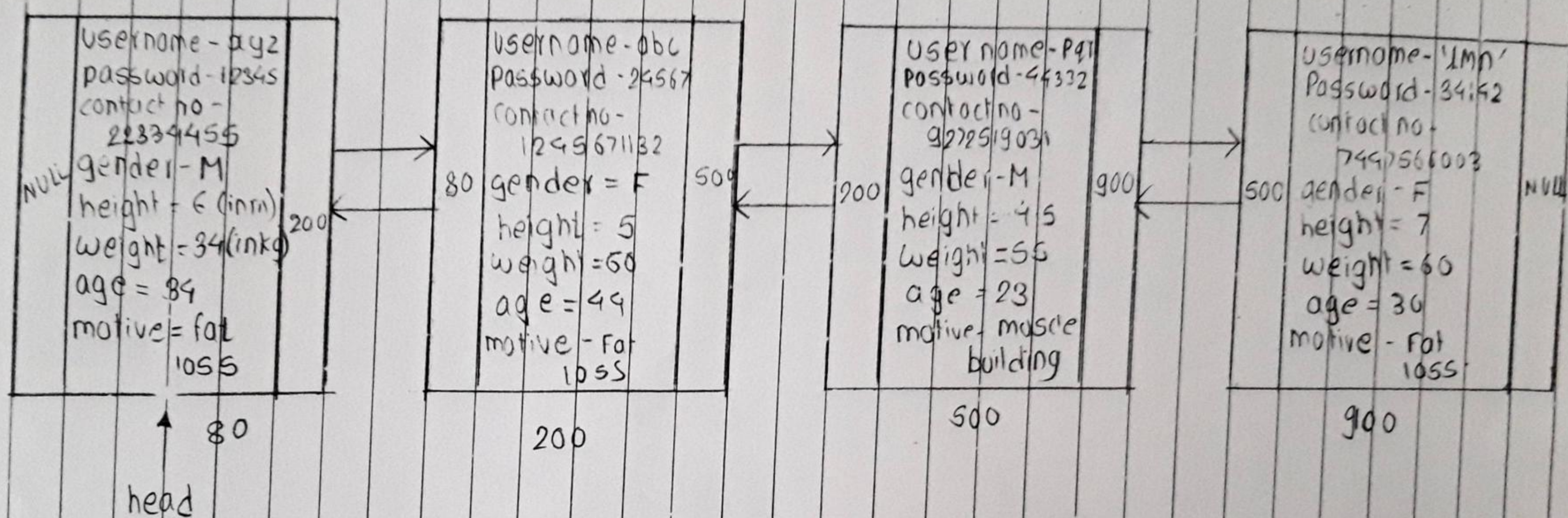
Exit

Process returned 0 (0x0)   execution time : 289.127 s

Press any key to continue.

BIOCK diagram

username - ay2 Password - 12345 contact no - 22334455 gender - M height = 6 (inrn) weight = 34(inkg) age = 84 motive = fat loss	200		username - obc Password - 24567 contactno - 1245671132 gender = F height = 5 weight = 60 age = 49 motive - Fat loss		user name - Pqr Password - 44332 contactno - 92285190311 gender - M height - 4·5 weight = 55 age = 23 motive - muscle building	900		username - 'lmn' Password - 34·42 contact no - 7497566003 gender - F height = 7 weight = 60 age = 36 motive - fat loss

NULL ... 200

80 ... 500

900 ... 500

NULL

80

head

200

500

900

Doubly - Linklist