BHAGWAN PARSHURAM INSTITUTE OF TECHNOLOGY

PRINCIPLES OF PROGRAMMING LANGUAGES LAB (ETCS-458)

SUBMITTED TO: SUBMITTED BY:

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                                                 CSE-A (8 SEM)

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EXPERIMENT NO. :- 1

AIM: Implement all major functions of string.h in single C program using switchcase to select specificfunction from user choice (like strlen, strcat, strcpy, strcmp, strrenv).

PROGRAM:

```c
///fundamental string operation, lenth, concatenation, compare and copy strings
without string.h
#include <stdio.h>
#include <stdlib.h>
  int find_length(char string[]) {
    int len = 0, i;
    for (i = 0; string[i] != '\0'; i++) {
      len++;
    }
    return len;
  }
void join_strings(char string1[], char string2[]) {
  int i, len1, len2;
  len1 = find_length(string1);
  len2 = find_length(string2);
  for (i = len1; i < len1 + len2; i++) {
    string1[i] = string2[i - len1];
  }
  string1[i] = '\0'; //adding null character at the end of input
}
/*returns 0 if thery are same otherwise returns 1*/
int compare_strings(char string1[], char string2[]) {
  int len1, len2, i, count = 0;
  len1 = find_length(string1);
  len2 = find_length(string2);
  if (len1 != len2)
    return 1;
  for (i = 0; i < len1; i++) {
    if (string1[i] == string2[i])
```

```c
      count++;
   }
  if (count == len1)
    return 0;
  return 1;
}
void copy_string(char destination[], char source[]) {
  int len, i;
  len = find_length(source);
  for (i = 0; i < len; i++) {
    destination[i] = source[i];
  }
  destination[i] = '\0';
}
int main() {
  char string1[20], string2[20]; //string variables declaration with size 20
  int choice;
  while (1) {
    printf("\n1. Find Length \n2. Concatenate \n3. Compare \n4. Copy \n5. Exit\n");
    printf("Enter your choice: ");
    scanf("%d", & choice);
    switch (choice) {
    case 1:
      printf("Enter the string: ");
      scanf("%s", string1);
      printf("The length of string is %d", find_length(string1));
      break;
    case 2:
      printf("Enter two strings: ");
      scanf("%s%s", string1, string2);
      join_strings(string1, string2);
      printf("The concatenated string is %s", string1);
      break;
    case 3:
      printf("Enter two strings: ");
      scanf("%s%s", string1, string2);
      if (compare_strings(string1, string2) == 0) {
        printf("They are equal");
      } else {
```

```c
        printf("They are not equal");
    }
    break;
  case 4:
    printf("Enter a string: ");
    scanf("%s", string1);
    printf("String1 = %s\n");
    printf("After copying string1 to string 2\n");
    copy_string(string2, string1);
    printf("String2 = %s", string2);
    break;
  case 5:
    exit(0);
  }
 }
 return 0;
}
```

OUTPUT:


```
main.c:82:26: warning: format '%s' expects a matching 'char *' argument [-Wformat=]

1. Find Length
2. Concatenate
3. Compare
4. Copy
5. Exit
Enter your choice: 1
Enter the string: Himanshu
The length of string is 8
1. Find Length
2. Concatenate
3. Compare
4. Copy
5. Exit
Enter your choice: 2
Enter two strings: Himanshu
Sharma
The concatenated string is HimanshuSharma
1. Find Length
2. Concatenate
3. Compare
4. Copy
5. Exit
Enter your choice: 3
Enter two strings: Himanshu Sharma
They are not equal
1. Find Length
2. Concatenate
3. Compare
4. Copy
5. Exit
Enter your choice: 4
Enter a string: Himanshu
String1 =
After copying string1 to string 2
String2 = Himanshu
1. Find Length
2. Concatenate
3. Compare
4. Copy
5. Exit
Enter your choice: 5

...Program finished with exit code 0
Press ENTER to exit console.
```

EXPERIMENT NO. :- 2

AIM: Write a program in C to reverse a linked list iterative and recursive.

PROGRAM:

```c
#include <stdio.h>
#include <stdlib.h>

struct LinkedList{
 int data;
 struct LinkedList* next;
};
 struct LinkedList* head = NULL;
 struct LinkedList* tail = NULL;

 void insert(int data){
   struct LinkedList* temp = (struct LinkedList*)malloc(sizeof(struct LinkedList));
   temp->data = data;
   if(head == NULL){
    head = temp;
    tail = temp;
    tail->next = NULL;
    return;
   }
   tail->next = temp;
   tail = tail->next;
   tail->next = NULL;
 }
 void print(){
  struct LinkedList* temp = head;

  if(temp == NULL){
    return;
  }

  while(temp != NULL){
    printf("%d\n",temp->data);
```

```c
    temp = temp->next;
  }
}
void reverse(){
 struct LinkedList* prev = NULL;
 struct LinkedList* curr = head;
 struct LinkedList* fwd = NULL;
 while(curr != NULL){
   fwd = curr->next;
   curr->next = prev;
   prev = curr;
   curr = fwd;
 }
 head = prev;
}
struct LinkedList* recReverse(struct LinkedList* node){
 if(node == NULL){
   return NULL;
 }
 if(node->next == NULL){
   head = node;
   return node;
 }
 struct LinkedList* node1 = recReverse(node->next);
 node1->next = node;
 node->next = NULL;
 return node;
};
int main()
{


   printf("Enter linkedlist  data!\n");
   int data;
   for(int i=0;i<5;i++){
     scanf("%d",&data);
     insert(data);
   }
```
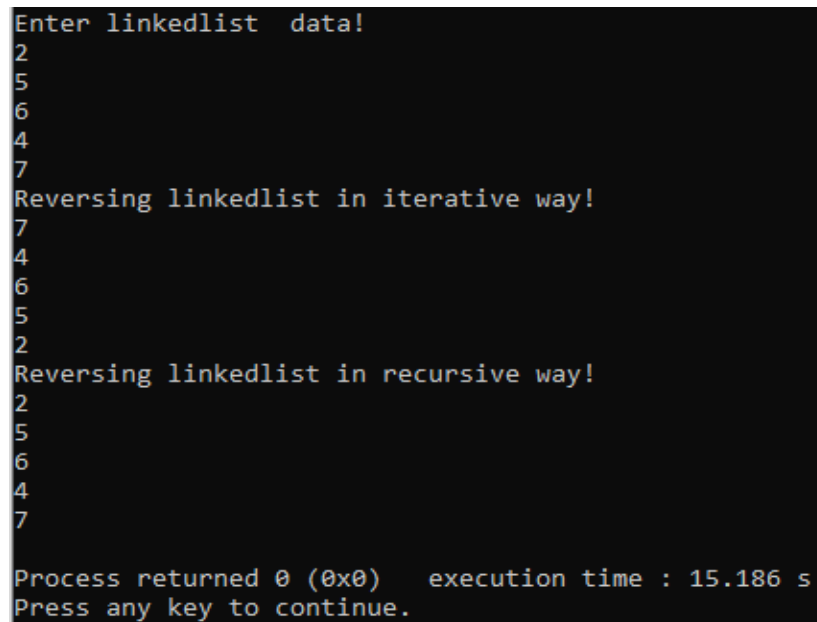
```
    //print();
    printf("Reversing linkedlist in iterative way!\n");
    reverse();
    print();
     printf("Reversing linkedlist in recursive way!\n");
    recReverse(head);
    print();
     return 0;
}
```

OUTPUT:

```
Enter linkedlist  data!
2
5
6
4
7
Reversing linkedlist in iterative way!
7
4
6
5
2
Reversing linkedlist in recursive way!
2
5
6
4
7

Process returned 0 (0x0)   execution time : 15.186 s
Press any key to continue.
```

EXPERIMENT NO. :- 3

AIM: WAP in C to implement iterative Towers of Hanoi.

PROGRAM:

```c
// C Program for Iterative Tower of Hanoi
#include <stdio.h>
#include <math.h>
#include <stdlib.h>
#include <limits.h>

// A structure to represent a stack
struct Stack
{
unsigned capacity;
int top;
int *array;
};

// function to create a stack of given capacity.
struct Stack* createStack(unsigned capacity)
{
        struct Stack* stack =
                (struct Stack*) malloc(sizeof(struct Stack));
        stack -> capacity = capacity;
        stack -> top = -1;
        stack -> array =
                (int*) malloc(stack -> capacity * sizeof(int));
        return stack;
}

// Stack is full when top is equal to the last index
int isFull(struct Stack* stack)
{
return (stack->top == stack->capacity - 1);
}
```

```c
// Stack is empty when top is equal to -1
int isEmpty(struct Stack* stack)
{
return (stack->top == -1);
}

// Function to add an item to stack. It increases
// top by 1
void push(struct Stack *stack, int item)
{
    if (isFull(stack))
        return;
    stack -> array[++stack -> top] = item;
}

// Function to remove an item from stack. It
// decreases top by 1
int pop(struct Stack* stack)
{
    if (isEmpty(stack))
        return INT_MIN;
    return stack -> array[stack -> top--];
}

//Function to show the movement of disks
void moveDisk(char fromPeg, char toPeg, int disk)
{
    printf("Move the disk %d from \'%c\' to \'%c\'\n",
        disk, fromPeg, toPeg);
}

// Function to implement legal movement between
// two poles
void moveDisksBetweenTwoPoles(struct Stack *src,
                struct Stack *dest, char s, char d)
{
    int pole1TopDisk = pop(src);
    int pole2TopDisk = pop(dest);
```

```c
        // When pole 1 is empty
        if (pole1TopDisk == INT_MIN)
        {
                push(src, pole2TopDisk);
                moveDisk(d, s, pole2TopDisk);
        }

        // When pole2 pole is empty
        else if (pole2TopDisk == INT_MIN)
        {
                push(dest, pole1TopDisk);
                moveDisk(s, d, pole1TopDisk);
        }

        // When top disk of pole1 > top disk of pole2
        else if (pole1TopDisk > pole2TopDisk)
        {
                push(src, pole1TopDisk);
                push(src, pole2TopDisk);
                moveDisk(d, s, pole2TopDisk);
        }

        // When top disk of pole1 < top disk of pole2
        else
        {
                push(dest, pole2TopDisk);
                push(dest, pole1TopDisk);
                moveDisk(s, d, pole1TopDisk);
        }
}

//Function to implement TOH puzzle
void tohIterative(int num_of_disks, struct Stack
                *src, struct Stack *aux,
                struct Stack *dest)
{
        int i, total_num_of_moves;
        char s = 'S', d = 'D', a = 'A';
```

```c
        //If number of disks is even, then interchange
        //destination pole and auxiliary pole
        if (num_of_disks % 2 == 0)
        {
                char temp = d;
                d = a;
                a = temp;
        }
        total_num_of_moves = pow(2, num_of_disks) - 1;

        //Larger disks will be pushed first
        for (i = num_of_disks; i >= 1; i--)
                push(src, i);

        for (i = 1; i <= total_num_of_moves; i++)
        {
                if (i % 3 == 1)
                moveDisksBetweenTwoPoles(src, dest, s, d);

                else if (i % 3 == 2)
                moveDisksBetweenTwoPoles(src, aux, s, a);

                else if (i % 3 == 0)
                moveDisksBetweenTwoPoles(aux, dest, a, d);
        }
}

// Driver Program
int main()
{
        // Input: number of disks
        unsigned num_of_disks = 3;

        struct Stack *src, *dest, *aux;

        // Create three stacks of size 'num_of_disks'
        // to hold the disks
        src = createStack(num_of_disks);
        aux = createStack(num_of_disks);
```

```
        dest = createStack(num_of_disks);

        tohIterative(num_of_disks, src, aux, dest);
        return 0;
}
```

OUTPUT:

```
Move the disk 1 from 'S' to 'D'
Move the disk 2 from 'S' to 'A'
Move the disk 1 from 'D' to 'A'
Move the disk 3 from 'S' to 'D'
Move the disk 1 from 'A' to 'S'
Move the disk 2 from 'A' to 'D'
Move the disk 1 from 'S' to 'D'

Process returned 0 (0x0)   execution time : 0.653 s
Press any key to continue.
```

EXPERIMENT NO. :- 4

AIM: WAP in C++ to count the no.s of object of a class with the help of static data member, funtion andconstructor.

PROGRAM:

```cpp
#include <iostream>
#include <string.h>
using namespace std;

class Message
{
    private:
        char str[30];
        //static data member to count the objects
        static int count;

    public:
        //constructor
        Message()
        {
            count++;
        }

        //member function to initialise message
        void initMessage(char s[])
        {
            strcpy(str,s);
        }

        //member function to print message
        void printMessage(void)
        {
            cout << str << endl;
        }

        //static member function
```

```cpp
            static int totalObjects(void)
            {
                    return count;
            }
};

//initialise static member function
int Message::count =0;

//main function
int main()
{
        Message M1;
        Message M2;
        Message M3;

        M1.initMessage("Message one");
        M2.initMessage("Message two");
        M3.initMessage("Message three");

        M1.printMessage();
        M2.printMessage();
        M3.printMessage();

        //printing object count
        cout << "Total objects created: " << Message::totalObjects() << endl;

        return 0;
}
```
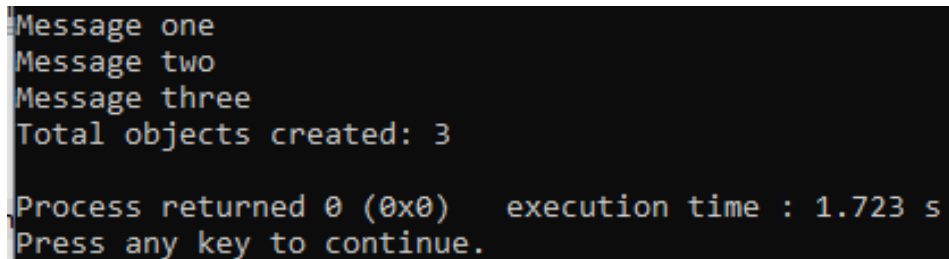
OUTPUT:

EXPERIMENT NO. :-5

AIM: WAP in C++ & Java to declare a class Time with data members mm for minutes, ss for seconds and hhfor hours. Define a parameterize constructor to assign time to its objects. Add two time objects usingmember function and assign to third objects. Implement all possible cases of time.

PROGRAM:

Code in C++

```cpp
#include <iostream>

using namespace std;

class time
{
        int hr,min,sec;
        public:
                void get()
                {
                        cin>>hr>>min>>sec;
                }
                void disp()
                {
                        cout<<hr<<":"<<min<<":"<<sec;

                }
                void sum(time,time);
};
void time::sum(time t1,time t2)
{
        sec=t1.sec+t2.sec;
        min=sec/60;
        sec=sec%60;
        min=min+t1.min+t2.min;
        hr=min/60;
        min=min%60;
        hr=hr+t1.hr+t2.hr;
```

```
}
int main()
{

        time t1,t2,t3;
        cout<<"Enter 1st time:";
        t1.get();
        cout<<"Enter 2nd time:";
        t2.get();
        cout<<"The 1st time is";
        t1.disp();
        cout<<"\nThe 2nd time is";
        t2.disp();
        t3.sum(t1,t2);
        cout<<"\nThe resultant time is";
        t3.disp();

}
```

OUTPUT:

```
Enter 1st time:1
15
25
Enter 2nd time:4
23
14
The 1st time is1:15:25
The 2nd time is4:23:14
The resultant time is5:38:39
Process returned 0 (0x0)    execution time : 20.495 s
Press any key to continue.
```

Code in JAVA

```java
package Practise;

import java.io.*;
class time
{
    int hour,min,sec;

    public time(int h,int m,int s)
    {
        hour = h;
        min = m;
        sec = s;
    }
    public time()
    {
        hour = 0;
        min = 0;
        sec = 0;
    }
    public time sum(time t2)
    {
        time t3 = new time();
        t3.sec = sec + t2.sec;
        t3.min = min + t2.min;
        t3.hour = hour + t2.hour;

        if(t3.sec >= 60)
        {
            t3.min = t3.sec / 60;
            t3.sec = t3.sec % 60;
        }
        if(t3.min >= 60)
        {
            t3.hour = t3.min / 60;
            t3.min = t3.min % 60;
        }
        return(t3);
```

```java
    }
    public void display()
    {
        System.out.println(hour+ ":"+min+":"+sec);
    }

}
class timedemo
{
    public static void main(String args[])throws IOException
    {
        //BufferedReader br = new BufferedReader(new
InputStreamReader(System.in));
        time t1 = new time(1,56,55);
        time t2 = new time(2,00,10);
        time t3 = new time();

        t3 = t1.sum(t2);
        t1.display();
        t2.display();
        t3.display();
    }

}
```

OUTPUT:

```
1:56:55
2:0:10
3:1:5
```

EXPERIMENT NO. :-6

AIM: WAP in C++ to define a class Complex to represents set of all complex numbers. Overload „+" operator to add two complex numbers using member function of the class and overload „*" operator to multiply two complex numbers using friend function of the class complex.

PROGRAM:

```cpp
#include <iostream>

using namespace std;
class Complex{
  private:
     int x, y;
  public:
   Complex(int s,int t){
    x = s;
    y = t;
    }
   Complex(){};
   Complex operator+(Complex const &c1){
      Complex c3;
      c3.x = c1.x+x;
      c3.y = c1.y+y;
      return c3;
   }
   Complex operator*(Complex c1){
      Complex c3;
      c3.x = (c1.x*x)-(c1.y*y);
      c3.y = (c1.x*y)+(c1.y*x);
      return c3;
   }
   void print(){
      cout<<x<<"+"<<"i"<<y<<endl;
   }
};
int main()
{
   Complex c1(1,1),c2(2,3);
   Complex c3 = c1+c2;
   cout<<"Addition of two complex number c1 and c2 result:"<<endl;
   c3.print();
   Complex c4 = c1*c2;
   cout<<"Multiplication of two complex number c1 and c2 result:"<<endl;
   c4.print();
```

```
    return 0;
}
```

OUTPUT:

```
Complex number-1 : 2 + 5i
Complex number-2 : 3 + 4i
Addition of complex numbers c1 + c2 = 5 + 9i
Multiplication of complex numbers c1 * c2 = 6 + 20i

Process returned 0 (0x0)   execution time : 0.439 s
Press any key to continue.
```

EXPERIMENT NO. :-7

AIM: Write a program in to prepare a list of 50 questions and their answers.

PROGRAM:

```java
package Practise;

public class FiftyQuestions {
    public static void main(String[] args) {
        System.out.println("1) Who invented Logarithm tables?");
        System.out.println("Ans: John Napier");
        System.out.println("2) Malfunctioning of which organ causes
jaundice?");
        System.out.println("Ans: Liver");
        System.out.println("3) Joule is the unit of?");
        System.out.println("Ans: energy");
        System.out.println("4) Ms. Medha Patkar is associated with the\r\n" +
                    "\r\n" +
                    " \r\n" +
                    "\r\n" +
                    "A. Tehri project   B. Enron project   C. Sardar Sarovar
project   D. Dabhol project");
        System.out.println("C");
        System.out.println("5) In which year a resolution 'Uniting for Peace'
was adopted by UN General Assembly?");
        System.out.println("1950");
        System.out.println("6) Where was India's first atomic power station set
up?");
        System.out.println("Tarapur(Maharastra)");
        System.out.println("7) India's first fast breeder neutron reactor was?\
r\n" +
                    "\r\n" +
                    " ");
        System.out.println("Kamini");
        System.out.println("8) Where is Indira Gandhi Centre for Atomic
Research, established in 1971, located?");
        System.out.println("Kalpakkam");
        System.out.println("9) How many non-permanent Security Council (UNO)
members are from Afro-Asian countries?");
        System.out.println("5");
        System.out.println("10) Hundred year war was fought between which two
countries?");
        System.out.println("France and England");
        System.out.println("11) India's first nuclear blast at Pokhran in
Rajasthan took place in which year?\r\n" +
                    "\r\n" +
                    " ");
        System.out.println("1974");
        System.out.println("12) If speed of rotation of the earth increases,
weight of the body\r\n" +
                    "\r\n" +
                    " \r\n" +
```

```java
                        "\r\n" +
                        "A. increases    B. remains unchanged  C. decreases  D. may
decrease or increase\r\n" +
                        "\r\n" +
                        "");
            System.out.println("C");
            System.out.println("13) In which year India participated in Olympics
Hockey for the first time?");
            System.out.println("1928");
            System.out.println("14) India's tallest stone statue of the Jain sage
Gomateswara is at?");
            System.out.println("Sravanbelgola, Karnatka");
            System.out.println("15) India's first satellite is named after?");
            System.out.println("Aryabhatta");
            System.out.println("16) India's first atomic reactor was\r\n" +
                        "\r\n" +
                        " \r\n" +
                        "\r\n" +
                        "A. Zerlina B. Dhruva    C. Apsara    D. Kamini");
            System.out.println("C");
            System.out.println("17) India has largest deposits of ____ in the
world.\r\n" +
                        "\r\n" +
                        " \r\n" +
                        "\r\n" +
                        "A. gold   B. copper  C. mica  D. None of the above");
            System.out.println("C");
            System.out.println("18) Which statesman nearly died of pneumonia aged
11, was captured by Boers while travelling as a war correspondent, and was hit by
a car while crossing Fifth Avenue, New York?");
            System.out.println("Winston Churchill.");
            System.out.println("19) In which year Hockey was introduced in the
Asian Games?");
            System.out.println("1958 in Tokyo");
            System.out.println("20)Where is Himalayan Mountaineering Institute
situated?");
            System.out.println("Darjeeling");
            System.out.println("21) Which instrument is used for seeing objects at
the surface of water from a submarine under water?");
            System.out.println("Periscope");
            System.out.println("22) Fathometer is used to measure?");
            System.out.println("Periscope");
            System.out.println("22) Fathometer is used to measure?");
            System.out.println("Ocean Depth");
            System.out.println("23)Headquarters of UNO are situated at?");
            System.out.println("New York");
            System.out.println("24) First International Peace Congress was held in
London in?\r\n" +
                        "\r\n" +
                        " \r\n" +
                        "\r\n" +
                        "A. 1564 AD   B. 1798 AD   C. 1843 AD   D. 1901 AD");
            System.out.println("C");
            System.out.println("25) Durand Cup is associated with the game of?");
            System.out.println("Football");
            System.out.println("26) Golden Temple, Amritsar is India's\r\n" +
                        "\r\n" +
                        " \r\n" +
```

```java
                            "\r\n" +
                            "A. largest Gurdwara  B. oldest Gurudwara  C. Both option A
and B are correct  D. None of the above\r\n" +
                            "\r\n" +
                            " ");
            System.out.println("A");
            System.out.println("27) Coral reefs in India can be found in?");
            System.out.println("Rameshvaram");
            System.out.println("28) Which monarch is said to have declared,
"L'État, c'est moi" ("I am the State")?");
            System.out.println(" Louis XIV.");
            System.out.println("29) Complete the nickname of Apollo Creed in the
Rocky film series:");
            System.out.println("The Count of Monte…Fisto (he has several other
nicknames as well, including "The Master of Disaster", "The King of Sting", "The
Dancing Destroyer" and "The Prince of Punch").");
            System.out.println("30) What colour is the €10 note?");
            System.out.println(" Red.");
            System.out.println("31) What company was founded by Ingvar Kamprad (who
grew up on Elmtaryd farm in Agunnaryd)");
            System.out.println("IKEA.");
            System.out.println("32) The Costa del Sol, Granada, Málaga, and Seville
are all found in which Spanish region?");
            System.out.println(" Andalusia.");
            System.out.println("33) What could this science mnemonic help you to
remember: "Harry He Likes Beer Bottle Cold, Not Over Frothy, No"?");
            System.out.println("The first ten elements in the periodic table.");
            System.out.println("34) Which 1991 film won the Oscars for Best
Picture, Best Actor, Best Actress, and Best Director?");
            System.out.println("The Silence of the Lambs.");
            System.out.println("35) Which is the only inanimate sign of the
zodiac?");
            System.out.println("Libra.");
            System.out.println("36) Which Tennis Grand Slam takes place in mid-
January?");
            System.out.println("The Australian Open.");
            System.out.println("37) What colour carnation is associated with Oscar
Wilde?");
            System.out.println("Green.");
            System.out.println("38) The Lion's Mound monument in Belgium
commemorates which battle?");
            System.out.println("Waterloo");
            System.out.println("39) Which song closes with the lines: "Planet Earth
is blue/ And there's nothing I can do."?");
            System.out.println("Space Oddity (David Bowie).");
            System.out.println("40) What is wrapped around the candle in the
Amnesty International logo?");
            System.out.println("Barbed wire.");
            System.out.println("41) A3 paper is half the size of A4 paper. True or
False?");
            System.out.println("False. A3 paper is twice the size of A4 paper.");
            System.out.println("42) Moravia and Bohemia form part of what modern
day country?");
            System.out.println("Czech Republic.");
            System.out.println("43) What is the largest moon in the Solar
System?");
            System.out.println("Phobos, Titan, Titania, or Ganymede? Ganymede
(Jupiter).");
```

```java
            System.out.println("44) Jake Sully and Neytiri are lead characters in which 2009 film?");
            System.out.println(" Avatar.");
            System.out.println("45) Which version of Windows, launched in 2015, has Microsoft described as an "operating system as a service"?");
            System.out.println(" Windows 10.");
            System.out.println("46) What colour flag signifies "Let Car Pass" in Formula One? Yellow, Red, Green, or Blue?");
            System.out.println("Blue.");
            System.out.println("47) Which George Orwell character shouts "Do it to Julia!" when a cage of rats is fitted to his face?");
            System.out.println(" Winston Smith (in Nineteen Eighty-Four).");
            System.out.println("48) Who did Margaret Thatcher succeed as British Prime Minister?");
            System.out.println(" James Callaghan.");
            System.out.println("49) Which artist designed the logo for Spanish lollipop brand "Chupa Chups"? ");
            System.out.println("alvador Dali.");
            System.out.println("50) Which colour is at the bottom edge of a rainbow?");
            System.out.println("Voilet");

    }

}
```

OUTPUT:

```
1) Who invented Logarithm tables?
Ans: John Napier
2) Malfunctioning of which organ causes jaundice?
Ans: Liver
3) Joule is the unit of?
Ans: energy
4) Ms. Medha Patkar is associated with the


A. Tehri project    B. Enron project    C. Sardar Sarovar project    D. Dabhol project
C
5) In which year a resolution 'Uniting for Peace' was adopted by UN General Assembly?
1950
6) Where was India's first atomic power station set up?
Tarapur(Maharastra)
7) India's first fast breeder neutron reactor was?


Kamini
8) Where is Indira Gandhi Centre for Atomic Research, established in 1971, located?
Kalpakkam
9) How many non-permanent Security Council (UNO) members are from Afro-Asian countries?
5
10) Hundred year war was fought between which two countries?
France and England
11) India's first nuclear blast at Pokhran in Rajasthan took place in which year?


1974
12) If speed of rotation of the earth increases, weight of the body
```

A. increases   B. remains unchanged C. decreases D. may decrease or increase

C
13) In which year India participated in Olympics Hockey for the first time?
1928
14) India's tallest stone statue of the Jain sage Gomateswara is at?
Sravanbelgola, Karnatka
15) India's first satellite is named after?
Aryabhatta
16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
17) India has largest deposits of ____ in the world.

A. gold   B. copper C. mica D. None of the above
C
18) Which statesman nearly died of pneumonia aged 11, was captured by Boers while travelling as a war correspondent, and was hit by a car while crossing Fifth Avenue, New York?
Winston Churchill.
19) In which year Hockey was introduced in the Asian Games?
1958 in Tokyo
20)Where is Himalayan Mountaineering Institute situated?
Darjeeling
21) Which instrument is used for seeing objects at the surface of water from a submarine under water?
Periscope
22) Fathometer is used to measure?
Periscope
22) Fathometer is used to measure?
Ocean Depth
23)Headquarters of UNO are situated at?

The first ten elements in the periodic table.
34) Which 1991 film won the Oscars for Best Picture, Best Actor, Best Actress, and Best Director?
The Silence of the Lambs.
35) Which is the only inanimate sign of the zodiac?
Libra.
36) Which Tennis Grand Slam takes place in mid-January?
The Australian Open.
37) What colour carnation is associated with Oscar Wilde?
Green.
38) The Lion's Mound monument in Belgium commemorates which battle?
Waterloo
39) Which song closes with the lines: "Planet Earth is blue/ And there's nothing I can do."?
Space Oddity (David Bowie).
40) What is wrapped around the candle in the Amnesty International logo?
Barbed wire.
41) A3 paper is half the size of A4 paper. True or False?
False. A3 paper is twice the size of A4 paper.
42) Moravia and Bohemia form part of what modern day country?
Czech Republic.
43) What is the largest moon in the Solar System?
Phobos, Titan, Titania, or Ganymede? Ganymede (Jupiter).
44) Jake Sully and Neytiri are lead characters in which 2009 film?
 Avatar.
45) Which version of Windows, launched in 2015, has Microsoft described as an "operating as a service"?
 Windows 10.
46) What colour flag signifies "Let Car Pass" in Formula One? Yellow, Red, Green, or Blue?
Blue.
47) Which George Orwell character shouts "Do it to Julia!" when a cage of rats is fitted to his face?
 Winston Smith (in Nineteen Eighty-Four).
48) Who did Margaret Thatcher succeed as British Prime Minister?
 James Callaghan.
49) Which artist designed the logo for Spanish lollipop brand "Chupa Chups"?
alvador Dali.
50) Which colour is at the bottom edge of a rainbow?
Voilet

EXPERIMENT NO. :-8

AIM: Write a program to display 10 questions at random out of exp.8-50 questions (do not display the answerof these questions to the user now).

PROGRAM:

```java
package Practise;

public class Random {

    static void randomTen(int n) {
        switch (n) {
        case 1:
            System.out.println("1) Who invented Logarithm tables?");
            System.out.println("Ans: John Napier");
            break;
        case 2:
            System.out.println("2) Malfunctioning of which organ causes jaundice?");
            System.out.println("Ans: Liver");
            break;
        case 3:
            System.out.println("3) Joule is the unit of?");
            System.out.println("Ans: energy");
            break;
        case 4:
            System.out.println("4) Ms. Medha Patkar is associated with the\r\n" + "\r\n" + " \r\n" + "\r\n"
                    + "A. Tehri project   B. Enron project   C. Sardar Sarovar project   D. Dabhol project");
            System.out.println("C");
            break;
        case 5:
            System.out.println("5) In which year a resolution 'Uniting for Peace' was adopted by UN General Assembly?");
            System.out.println("1950");
            break;
        case 6:
            System.out.println("6) Where was India's first atomic power station set up?");
            System.out.println("Tarapur(Maharastra)");
            break;
        case 7:
            System.out.println("7) India's first fast breeder neutron reactor was?\r\n" + "\r\n" + " ");
            System.out.println("Kamini");
            break;
        case 8:
            System.out.println("8) Where is Indira Gandhi Centre for Atomic Research, established in 1971, located?");
            System.out.println("Kalpakkam");
            break;
        case 9:
```

```java
			System.out
				.println("9) How many non-permanent Security Council
(UNO) members are from Afro-Asian countries?");
			System.out.println("5");
			break;
		case 10:
			System.out.println("10) Hundred year war was fought between which
two countries?");
			System.out.println("France and England");
			break;
		case 11:
			System.out.println("11) India's first nuclear blast at Pokhran in
Rajasthan took place in which year?\r\n"
				+ "\r\n" + " ");
			System.out.println("1974");
			break;
		case 12:
			System.out.println("12) If speed of rotation of the earth
increases, weight of the body\r\n" + "\r\n"
				+ " \r\n" + "\r\n"
				+ "A. increases   B. remains unchanged  C. decreases
D. may decrease or increase\r\n" + "\r\n"
				+ "");
			System.out.println("C");
			break;
		case 13:
			System.out.println("13) In which year India participated in
Olympics Hockey for the first time?");
			System.out.println("1928");
			break;
		case 14:
			System.out.println("14) India's tallest stone statue of the Jain
sage Gomateswara is at?");
			System.out.println("Sravanbelgola, Karnatka");
			break;
		case 15:
			System.out.println("15) India's first satellite is named
after?");
			System.out.println("Aryabhatta");
			break;
		case 16:
			System.out.println("16) India's first atomic reactor was\r\n" +
"\r\n" + " \r\n" + "\r\n"
				+ "A. Zerlina B. Dhruva   C. Apsara    D. Kamini");
			System.out.println("C");
			break;
		case 17:
			System.out.println("17) India has largest deposits of ____ in the
world.\r\n" + "\r\n" + " \r\n" + "\r\n"
				+ "A. gold   B. copper  C. mica  D. None of the
above");
			System.out.println("C");
			break;
		case 18:
			System.out.println(
				"18) Which statesman nearly died of pneumonia aged
11, was captured by Boers while travelling as a war correspondent, and was hit by
a car while crossing Fifth Avenue, New York?");
```

```java
                System.out.println("Winston Churchill.");
                break;
        case 19:
                System.out.println("19) In which year Hockey was introduced in
the Asian Games?");
                System.out.println("1958 in Tokyo");
                break;
        case 20:
                System.out.println("20)Where is Himalayan Mountaineering
Institute situated?");
                System.out.println("Darjeeling");
                break;
        case 21:
                System.out.println(
                                "21) Which instrument is used for seeing objects at
the surface of water from a submarine under water?");
                System.out.println("Periscope");
                break;
        case 22:
                System.out.println("22) Fathometer is used to measure?");
                System.out.println("Periscope");
                break;
        case 23:
                System.out.println("23)Headquarters of UNO are situated at?");
                System.out.println("New York");
                break;
        case 24:
                System.out.println("24) First International Peace Congress was
held in London in?\r\n" + "\r\n" + " \r\n"
                                + "\r\n" + "A. 1564 AD   B. 1798 AD   C. 1843 AD   D.
1901 AD");
                System.out.println("C");
                break;
        case 25:
                System.out.println("25) Durand Cup is associated with the game
of?");
                System.out.println("Football");
                break;
        case 26:
                System.out.println("26) Golden Temple, Amritsar is India's\r\n" +
"\r\n" + " \r\n" + "\r\n"
                                + "A. largest Gurdwara  B. oldest Gurudwara  C. Both
option A and B are correct  D. None of the above\r\n"
                                + "\r\n" + " ");
                System.out.println("A");
                break;
        case 27:
                System.out.println("27) Coral reefs in India can be found in?");
                System.out.println("Rameshvaram");
                break;
        case 28:
                System.out.println("28) Which monarch is said to have declared,
"L'État, c'est moi" ("I am the State")?");
                System.out.println(" Louis XIV.");
                break;
        case 29:
                System.out.println("29) Complete the nickname of Apollo Creed in
the Rocky film series:");
```

```java
                System.out.println(
                                "The Count of Monte…Fisto (he has several other
nicknames as well, including "The Master of Disaster", "The King of Sting", "The
Dancing Destroyer" and "The Prince of Punch").");
                break;
            case 30:
                System.out.println("30) What colour is the €10 note?");
                System.out.println(" Red.");
                break;
            case 31:
                System.out.println(
                                "31) What company was founded by Ingvar Kamprad (who
grew up on Elmtaryd farm in Agunnaryd)");
                System.out.println("IKEA.");
                break;
            case 32:
                System.out.println(
                                "32) The Costa del Sol, Granada, Málaga, and Seville
are all found in which Spanish region?");
                System.out.println(" Andalusia.");
                break;
            case 33:
                System.out.println(
                                "33) What could this science mnemonic help you to
remember: "Harry He Likes Beer Bottle Cold, Not Over Frothy, No"?");
                System.out.println("The first ten elements in the periodic
table.");
                break;
            case 34:
                System.out.println(
                                "34) Which 1991 film won the Oscars for Best Picture,
Best Actor, Best Actress, and Best Director?");
                System.out.println("The Silence of the Lambs.");
                break;
            case 35:
                System.out.println("35) Which is the only inanimate sign of the
zodiac?");
                System.out.println("Libra.");
                break;
            case 36:
                System.out.println("36) Which Tennis Grand Slam takes place in
mid-January?");
                System.out.println("The Australian Open.");
                break;
            case 37:
                System.out.println("37) What colour carnation is associated with
Oscar Wilde?");
                System.out.println("Green.");
                break;
            case 38:
                System.out.println("38) The Lion's Mound monument in Belgium
commemorates which battle?");
                System.out.println("Waterloo");
                break;
            case 39:
                System.out.println(
                                "39) Which song closes with the lines: "Planet Earth
is blue/ And there's nothing I can do."?");
```

```java
                System.out.println("Space Oddity (David Bowie).");
                break;
        case 40:
                System.out.println("40) What is wrapped around the candle in the
Amnesty International logo?");
                System.out.println("Barbed wire.");
                break;
        case 41:
                System.out.println("41) A3 paper is half the size of A4 paper.
True or False?");
                System.out.println("False. A3 paper is twice the size of A4
paper.");
                break;
        case 42:
                System.out.println("42) Moravia and Bohemia form part of what
modern day country?");
                System.out.println("Czech Republic.");
                break;
        case 43:
                System.out.println("43) What is the largest moon in the Solar
System?");
                System.out.println("Phobos, Titan, Titania, or Ganymede? Ganymede
(Jupiter).");
                break;
        case 44:
                System.out.println("44) Jake Sully and Neytiri are lead
characters in which 2009 film?");
                System.out.println(" Avatar.");
                break;
        case 45:
                System.out.println(
                                "45) Which version of Windows, launched in 2015, has
Microsoft described as an "operating system as a service"?");
                System.out.println(" Windows 10.");
                break;
        case 46:
                System.out.println(
                                "46) What colour flag signifies "Let Car Pass" in
Formula One? Yellow, Red, Green, or Blue?");
                System.out.println("Blue.");
                break;
        case 47:
                System.out.println(
                                "47) Which George Orwell character shouts "Do it to
Julia!" when a cage of rats is fitted to his face?");
                System.out.println(" Winston Smith (in Nineteen Eighty-Four).");
                break;
        case 48:
                System.out.println("48) Who did Margaret Thatcher succeed as
British Prime Minister?");
                System.out.println(" James Callaghan.");
                break;
        case 49:
                System.out.println("49) Which artist designed the logo for
Spanish lollipop brand "Chupa Chups"? ");
                System.out.println("alvador Dali.");

                break;
```

```java
            case 50:
                System.out.println("50) Which colour is at the bottom edge of a
rainbow?");
                System.out.println("Voilet");
                break;

            default:
                break;
        }
    }

    public static void main(String[] args) {

        for(int i=0;i<10;i++) {
            int n = (int) ((Math.random())*100);
            //System.out.println(n);
            if(n>50) {
                n = n-50;
            }
            randomTen(n);
        }
    }

}
```

OUTPUT:

16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
39) Which song closes with the lines: "Planet Earth is blue/ And there's nothing I can do."?
Space Oddity (David Bowie).
9) How many non-permanent Security Council (UNO) members are from Afro-Asian countries?
5
4) Ms. Medha Patkar is associated with the

A. Tehri project   B. Enron project   C. Sardar Sarovar project   D. Dabhol project
C
38) The Lion's Mound monument in Belgium commemorates which battle?
Waterloo
6) Where was India's first atomic power station set up?
Tarapur(Maharastra)
16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
10) Hundred year war was fought between which two countries?
France and England
12) If speed of rotation of the earth increases, weight of the body

Space Oddity (David Bowie).
9) How many non-permanent Security Council (UNO) members are from Afro-Asian countries?
5
4) Ms. Medha Patkar is associated with the

A. Tehri project   B. Enron project   C. Sardar Sarovar project   D. Dabhol project
C
38) The Lion's Mound monument in Belgium commemorates which battle?
Waterloo
6) Where was India's first atomic power station set up?
Tarapur(Maharastra)
16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
16) India's first atomic reactor was

A. Zerlina B. Dhruva   C. Apsara   D. Kamini
C
10) Hundred year war was fought between which two countries?
France and England
12) If speed of rotation of the earth increases, weight of the body

A. increases   B. remains unchanged C. decreases D. may decrease or increase

C