

Name

Subject

Semester

Gakshi chowasiya.

Java Experiment.

3rd Semester.

Year

Class

Roll No.

2nd year.

I N D E X

Sr. No.	Experiment Description	Experiment Date	Submission Date	Remarks/Signature
1	Wap to print "Hello World"?	4/10/21		
2.	Wap to perform all arithmetic operation of 2 numbers?	4/10/21	4/10/21	
3.	Wap to perform all arithmetic operation of 2 number taking input from user?	4/10/21		
4.	Wap to find the largest of the 3 numbers?	4/10/21	4/10/21	
5.	Wap to find the largest number of the 3 numbers using inbuilt function & taking input from user?	4/10/21		
6.	Wap to find smallest number of the three numbers?	18/10/21		

I N D E X

Sr. No.	Experiment Description	Experiment Date	Submission Date	Remarks/Signature
7.	Wap to Initialise a character and print whether it is lowercase, uppercase and special case ?	18/10/21		
8.	Wap to initialise a character and print whether it is lowercase , uppercase and Special case ?	25/10/21		
9.	Wap to find roots of any given quadratic equation?	25/10/21		
10.	Wap to conversion from decimal to binary taking input from user?	8/11/21		
11.	Wap to conversion from octal to binary taking input from user?	8/11/21		
12.	Wap to conversion from Hexa to binary taking input from user?	29/11/21		

13. Wap to conversion from octal to binary taking input from user? 29/11/2021
14. Wap to conversion from binary to decimal taking input from user? 29/11/2021
15. Wap to conversion from binary to octal taking input from user? 6/12/2021
16. Wap to conversion from binary to hex taking input from user? 13/12/2021
17. Wap to print a table taking input from user? 13/12/2021
18. Wap to find square root taking input from user? 13/12/2021
19. Wap to find ~~square~~ square root using inbuild function taking input from user?

Experiment :- 1

Aim:-

Introduction of Java ?

Java was developed by James Gosling at Sun Microsystems Inc in the year 1995 later acquired by Oracle Corporation. It is a simple programming language. Java makes writing, Compiling and debugging programming easy. It helps to create reusable code and modular programs.

Java is a class-based object-oriented programming language and is designed to have as few implementation dependencies as possible.

A general purpose programming language made for developers to write once run anywhere that is compiled Java code can run on all platforms that support Java. Java applications are compiled to byte code that can run on any Java virtual machine. The syntax of Java is similar to C/C++.

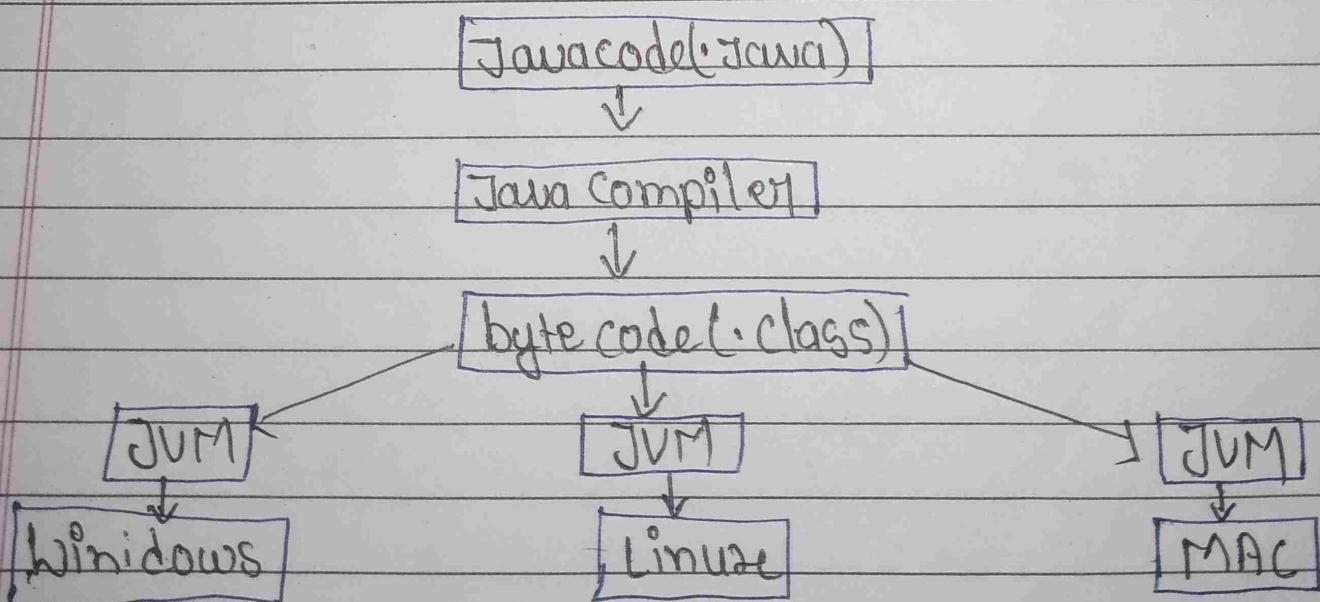


fig :- Programming Language in Java.

Experiment :-

Aim :-

How to print "Hello world" ?

// Hello world program

Class Hello world

{

public static void main (String [] args)

{

System.out.println ("Hello , world !");

}

}

Output

Hello . world !

Experiment :- 3

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DATE: 11/11/18

Aim:-

Wap to perform all arithmetic operation of 2 number taking input from user?

```
import java.util.Scanner;
```

```
public class arithmeticOperations.
```

```
    public static void main (String args [] )
```

```
    {
```

```
        Scanner s = new Scanner (System .in);
```

```
        while (true)
```

```
{
```

```
        System.out.println ("--");
```

```
        System.out.println ("Enter the two numbers to  
perform operations");
```

```
        System.out.println ("Enter the first number");
```

```
        int x = s.nextInt();
```

```
        System.out.println ("Enter the Second number");
```

```
        int y = s.nextInt();
```

```
        System.out.println ("choose the operation you  
want to perform");
```

```
        System.out.println ("choose 1 for add");
```

```
        System.out.println ("choose 2 for Sub");
```

```
        System.out.println ("choose 3 for multip");
```

System.out.println("choose 4 for Division");
System.out.println("choose 5 for modulus");
System.out.println("choose 6 for Exit");

int n = s.nextInt();
switch(n){

Case 1 :

int add;

add = x+y;

System.out.println("Result : "+add);
break;

Case 2 :

int sub;

Sub = x-y;

System.out.println("Result : -Sub");
break;

Case 3 :

int multi;

System.out.println("Result : *multi");
break;

Case 4 :

float div;

div = (float)x/y;

System.out.println("Result : "+div);
break;

Case 5:

```
int mod;
```

```
mod = x % y;
```

```
System.out.println ("Result": "+mod);
```

```
break;
```

Case 6:

```
System.exit(0);
```

O/P

Java arithmetic_operators . java .

Enter the two numbers to perform operations

Enter the first numbers : 12

Enter the second numbers : 45

Choose the operation you want to perform.

choose 1 for Add

choose 2 for Sub

choose 3 for multi

choose 4 for Div

choose 5 for modulus

choose 6 for Exit

Result: 57

Experiment : 4

Aim :

Wap to perform all arithmetic operation of 2 numbers taking input from user ?

```
import java.util.Scanner;
public class arithmetic_operation {
    public static void main (String [] args) {
        Scanner in = new Scanner (System.in);
        System.out.println ("Enter first number : ");
        int num1 = in.nextInt ();
        System.out.println ("Enter second number : ");
        int num2 = in.nextInt ();
        int sum = num1 + num2;
        int difference = num1 - num2;
        int product = num1 * num2;
        int quotient = num1 / num2;
        int modulo = num1 % num2;
    }
}
```

```
System.out.println ("Sum : " + sum)
System.out.println ("Difference : ")
System.out.println ("Product : ")
System.out.println ("Quotient : ")
System.out.println ("Modulo : ")
```

Output

Enter first number : 15

Enter second number : 4

Sum: 19

Difference : 11

Product : 60

Quotient : 3

Remainder : 3

Experiment - 5

Aim :-

Program to find the largest number of the three numbers ?

```
import java.util.Scanner;  
public class LargestNumber {  
    public static void main(String[] args) {
```

```
        int a, b, c, largest, temp;
```

```
        Scanner sc = new Scanner(System.in);
```

```
        System.out.println("Enter the first number:");
```

```
        a = sc.nextInt();
```

```
        System.out.println("Enter the second number:");
```

```
        b = sc.nextInt();
```

```
        System.out.println("Enter the third number:");
```

```
        c = sc.nextInt();
```

```
        temp = a > b ? a : b;
```

largest = c > temp ? c : temp ;

System.out.println ("The largest number is :");

3

g

olp

Enter the first number : 23

Enter the second number : 11

Enter the third number : 67

Largest number is : 67

Experiment-6

Aim :-

To find the largest number of the three numbers using inbuilt function and taking input from user.

import java.util.Scanner;
Public class Largest number.

{ public static void main (String [] args)

{

int a,b,c,largest;

Scanner sc = new Scanner (System::in);

System.out.println (" Enter the first number : ");

a = sc.nextInt ();

System.out.println (" Enter the second number : ");

b = sc.nextInt ();

System.out.println (" Enter the third number : ");

c = sc.nextInt ();

largest = c > (a > b ? a : b) ? c : ((a > b) ? a : b);

System.out.println (" The largest number is : " + largest);

}

3

output :

Enter the first number :

45

Enter the second number :

67

Enter the third number :

34

The largest number is : 67

Experiment :-

Aim :-

To find the smallest number of the three numbers ?

```
Import java.util.Scanner;
```

```
public class smallestnumber
```

```
{
```

```
    public static void main (String [] args)
```

```
{
```

```
        int a, b, c, smallest, temp;
```

```
        Scanner sc = new Scanner (System.in);
```

```
        System.out.println ("Enter the first number:");
```

```
        a = sc.nextInt();
```

```
        System.out.println ("Enter the second number:");
```

```
        b = sc.nextInt();
```

```
        System.out.println ("Enter the third number:");
```

```
        c = sc.nextInt();
```

```
        temp = a < b ? a : b;
```

```
        smallest = c < temp ? c : temp;
```

```
        System.out.println ("The Smallest
```

```
            number is:" + smallest);
```

```
}
```

Output

Enter the first number: 23

Enter the Second number : 11

Enter the third number : 67

The smallest number is : 11

Experiment:- 8

Aim:-

Wap to find the smallest numbers using inbuilt function and taking input from user?

```
import java.util.Scanner;
```

```
public class smallest_number {
```

```
{
```

```
    public static void main (String args[])
```

```
{
```

```
    int num1, num2, num3;
```

```
    System.out.println ("Enter three integers:");
```

```
    Scanner in = new Scanner (System.in);
```

```
    num1 = in.nextInt ();
```

```
    num2 = in.nextInt ();
```

```
    num3 = in.nextInt ();
```

```
    if (num1 < num2 && num1 < num3)
```

```
        System.out.println ("The smallest number is: " + num1);
```

```
    else if (num2 < num1 && num2 < num3)
```

```
        System.out.println ("The smallest number is: " + num2);
```

```
    else if (num3 < num1 && num3 < num2)
```

```
        System.out.println ("The smallest number is: " + num3);
```

```
    else
```

```
        System.out.println ("The numbers are same:");
```

```
}
```

```
}
```

output

Enter three integers

12 110 9

The smallest number is : 9

Experiment:-9

Aim :-

Want to initialize a character and print whether it is lowercase uppercase and special case?

Class

{ static void check (char ch)

{ if (ch >= 'A' && ch <= 'Z')

System.out.println ("In " + ch +

" is an Uppercase character");

else if (ch >= 'a' && ch <= 'z')

System.out.println ("In " + ch +

" is an Lowercase character");

else,

System.out.println ("In " + ch +

" is not an alphabetic character");

// Driver code.

public static void main (String [] args)

{ char ch;

// Get the character

ch = 'A';

ch = 'a';

check (ch);

ch = '0';

check (ch);

3

Output

A is an Uppercase character

a is an Lowercase character

0 is not an alphabetic character.

Experiment :- 10

Aim :-

To find roots of any given quadratic equation

```
import java.util.Scanner  
public class Quadratic_Equation
```

{

```
public static void main (String [] strings)
```

{

```
Scanner input = new Scanner (System.in);  
System.out.print ("Enter the value of a : ");
```

```
double a = input.nextDouble();
```

```
System.out.print ("Enter the value of b : ");
```

```
double b = input.nextDouble();
```

```
System.out.print ("Enter the value of c : ");
```

```
double c = input.nextDouble();
```

```
double d = b * b - 4.0 * a * c;
```

```
if (d >= 0.0)
```

{

```
double r1 = (-b + Math.pow(d, 0.5)) / (2.0 * a);
```

```
double r2 = (-b - Math.pow(d, 0.5)) / (2.0 * a);
```

```
System.out.println ("The roots are " + r1 + " and "  
+ r2);
```

}

```
else if (d == 0.0)
```

{

```
    double r1 = -b / (2.0 * a);
```

```
    System.out.println ("The root is " + r1);
```

{

else

{

```
    System.out.println ("Roots are not real.");
```

{

{

{

Output

Enter the value of a : 1

Enter the value of b : 1

Enter the value of c : 1

Roots are not real.

Experiment-11

Aim :-

Java program to convert decimal to binary
taking input from user ?

```
import java.util.*;
```

```
class DecToBin
```

```
{ public static void main (String arg[]) }
```

```
{
```

```
Scanner sc = new Scanner (System.in);
```

```
System.out.println ("Enter a decimal number");
```

```
int n = sc.nextInt();
```

```
int bin[] = new int [100];
```

```
int i = 0;
```

```
while (n > 0)
```

```
{
```

```
bin[i] = n % 2;
```

```
n = n / 2;
```

```
}
```

```
System.out.print ("Binary number is :");
```

```
for (int j = i - 1; j >= 0; j--)
```

```
{
```

```
System.out.print (bin[j]);
```

```
}
```

```
}
```

output

Enter a decimal number: 4
Binary number is: 100

Experiment-12

Aim :-

Hex to conversion from Hexa to binary
taking input from user ?

import java.util.Scanner;
class Hexa - Binary.

{
Scanner Scan ;
int num ;
void getval()

{
System.out.println ("HexaDecimal to binary");
Scan = new Scanner (System.in);
System.out.println ("In Enter the number :");
num = Integer.parseInt (Scan.nextLine (), 16);

{
void Conved()

{
String binary = Integer.toBinaryString (num);
System.out.println ("Binary value is "
+ binary);

{
class main class .

{
public static void main (String args [])

Hexa - Binary obj = new Hexa - Binary();
obj . getval();
obj . convert();

}

y

output

Hexa Decimal to Binary.

Enter the number : 20

Binary value is : 100000

Experiment : 13

Aim :-

Octal conversion from Octal to binary taking input from user ?

// Java program to convert
// Octal number to Binary.

class octalToBinary

{
 static String converter (String octalValue)

{

int i = 0;

String binaryValue = " ";

while (i < octalValue.length())

{

char c = octalValue.charAt ((int) i);

switch (c) :

{

case '0' :

binaryValue += "000";
 break;

case '1' :

binaryValue += "001";
 break;

case '2' :

binaryValue += "011";
 break;

case '3' :

binary value + = "011";
break;

Case '4' :

binary value + = "100";
break;

case '5' :

binary value + = "101";
break;

case '6' :

binary value + = "110";
break;

case '7' :

binary value + = "111";
break;

default :

System.out.println ("In Invalid Octal Digit"
+ octalvalue.charAt ((int)i));

break;

}
i++;

}
return binary value;

}

public static void main(String args[])

System.out.println("Octal to Binary Conversion
In");

String octalnumber = "315";

System.out.println("Octal number: "+octal
number);

String result = converter(octal number);

System.out.println("Binary equivalent
value is: "+result);

Output

Octal to Binary conversion.

Octal number : 315

Binary equivalent value is : 01100110

Experiment :- 14

Aim :-

Wap to conversion from binary to decimal taking input from user?

Public class Binary To Decimal

{

Public static void main (String args [])

{

String binary string = "1010" ;

int decimal = Integer.parseInt (binary String , 2);

System.out.println (decimal);

}

}

Output

10

Experiment :- 16

Aim:-

Binary conversion from binary to hex taking input
from user ?

```
import java.util.Scanner;  
class Binary - Hexa
```

```
{  
    Scanner Scan;  
    int num;  
    void getval()
```

```
        System.out.println ("Binary to Hexa Decimal");  
        Scan = new Scanner (System.in);  
        System.out.println ("Enter the number : ");  
        num = Integer.parseInt (Scan.nextLine(), 2);
```

```
}  
void convert()
```

```
{  
    String hexa = Integer.toHexString (num);  
    System.out.println ("Hexa Decimal value is :" + hexa);  
}
```

}

```
class main - class
```

```
{  
    public static void main (String ... d)
```

```
        Binary - Hexa obj = new Binary - Hexa();
```

```
        obj.getval();
```

```
        obj.convert();
```

}

Output

Binary to Hexa Decimal

Enter the number : 1010

Hexa Decimal value is : a

Experiment :- 15

Aim :-

How to conversion from binary to octal taking input from user?

```
import java.util.Scanner;
```

```
class Binary-Octal
```

{

```
Scanner Scan;
```

```
int num;
```

```
void getval()
```

{

```
System.out.println("Binary to Octal");
```

```
Scan = new Scanner(System.in);
```

```
System.out.println("In Enter the number:");
```

```
num = Integer.parseInt(Scan.nextLine());
```

```
(1,2);
```

{

```
void convert()
```

{

```
String octal = Integer.toOctalString(num);
```

```
System.out.println("Octal value is:" + octal);
```

{

```
class main class
```

{

public static void main (String ... s)

{

BinaryOctal obj = new BinaryOctal();
obj.getval();
obj.convert();

}

}

Output :-

Binary to Octal

Enter the number : 1010

Octal value is : 12

Experiment :- 17

Aim:-

How to print a table taking input from user?

```
import java.util.Scanner;
public class multiplicationTable
```

public static void main (String [] args)

```
Scanner s = new Scanner (System.in);
System.out.print ("Enter number:");
int n = s.nextInt ();
for (int i = 1; i <= 10; i++)
```

```
System.out.println (n + " * " + i + " = " + n * i);
```

Output:-

Enter number: 7

$$7 * 1 = 7$$

$$7 * 2 = 14$$

$$7 * 3 = 21$$

$$7 * 4 = 28$$

$$7 * 5 = 35$$

$$7 * 6 = 42$$

$$7 * 7 = 49$$

$$7 * 8 = 56$$

$$7 * 9 = 63$$

$$7 * 10 = 70$$

Experiment :- 18

Aim :-

Wap to find Square root taking input from user.

```
import java.util.Scanner;
```

```
public class main
```

```
{ public static void main (String [] args)
```

```
{ Scanner sc = new Scanner (System.in);
```

```
System.out.println ("Enter a number :");
```

```
int n = sc.nextInt();
```

```
System.out.println ("The square root of " + n + " is :
```

```
"sqrtroot(n));
```

```
} public static double Sqrroot (int num)
```

```
{
```

```
double temp;
```

```
double Sqrroot = num / 2;
```

```
do
```

```
{
```

```
temp = Sqrroot;
```

```
Sqrroot = (temp + (num / temp)) / 2;
```

```
}
```

```
while ((temp - Sqrroot) != 0);
```

```
return Sqrroot;
```

```
}
```

```
}
```

output

Enter a number : 45

The Square root of 45 is : 6.70820393249

Experiment :- 19

Aim

Wap to find square root using Inbuilt function taken
Input from user?

```
Package My package;  
Import java.util.Scanner;  
Public class Square {
```

```
{ public static void main (String args[])
```

}

```
Double num;
```

```
Scanner sc = new Scanner (System.in);
```

```
System.out.print ("Enter a number : ");
```

```
num = sc.nextDouble();
```

```
Double square = num * num;
```

```
System.out.print (" Square of " + num + " is " +  
square );
```

}

g

Output

Enter a number : 10

Square of 10.0 is : 100.0

Experiment :- 20

Aim :- Write a program to generate Fibonacci Series taking input from user.

```
import java.util.Scanner;
```

```
public class Fibonacci
```

{

```
    public static void main(String[] args)
```

{

```
        int n, a = 0, b = 0, c = 1;
```

```
        Scanner s = new Scanner(System.in);
```

```
        System.out.print("Enter value of n:");
```

```
        n = s.nextInt();
```

```
        System.out.print("Fibonacci Series:");
```

```
        for (int i = 1; i <= n; i++)
```

{

```
            a = b;
```

```
            b = c;
```

```
            c = a + b;
```

```
            System.out.print(a + " ");
```

{

{