

EXPERIMENT NO. 1

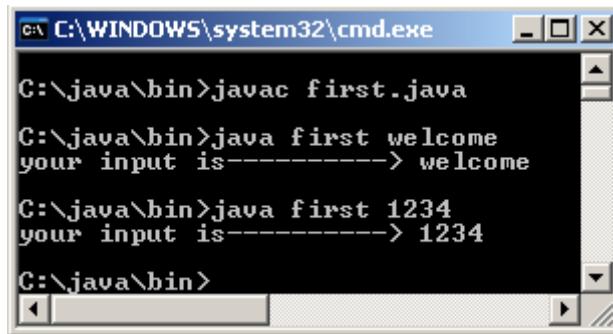
Aim : - Write a program to Input a String and display it on screen

Explanation :- This is a simple program in java to display strings.

Program :-

```
class first
{
    public static void main(String str[])
    {
        String s=String.valueOf(str[0]);
        System.out.println("your input is-----> "+s);
    }
}
```

Output:-



The screenshot shows a Windows command prompt window titled 'C:\WINDOWS\system32\cmd.exe'. The window contains the following text:

```
C:\java\bin>javac first.java
C:\java\bin>java first welcome
your input is-----> welcome
C:\java\bin>java first 1234
your input is-----> 1234
C:\java\bin>
```

Viva -Voice Questions:

1. What do you mean by object oriented programming.
2. What is the difference between java and c++.
3. What is class.
4. What is object.

EXPERIMENT NO. 2

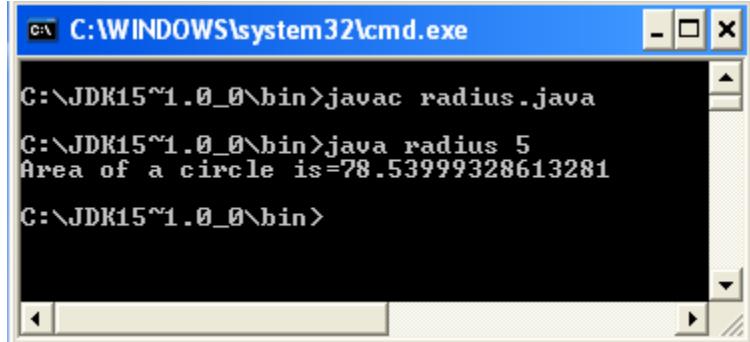
Aim :- Write a program to compute the area of a circle.

Explanation :-This program demonstrate the uses of datatypes and variables to compute area of a circle.

Program :-

```
class radius
{
    public static void main(String str[])
    {
        int r;
        double a;
        float pi=3.1416f;
        r=Integer.parseInt(str[0]);
        a=pi*r*r;
        System.out.println("Area of a circle is="+a);
    }
}
```

Output :-



The screenshot shows a Windows Command Prompt window titled 'C:\WINDOWS\system32\cmd.exe'. The command line shows two commands being run: 'javac radius.java' followed by 'java radius 5'. The output of the second command is 'Area of a circle is=78.53999328613281'. The window has standard Windows-style scroll bars and a title bar.

Viva -Voice Questions:

1. What is datatypes.
2. What is variable.
3. What is the difference between object and variable?
4. Why do I have to put an f after a floating point constant?

EXPERIMENT NO. 3

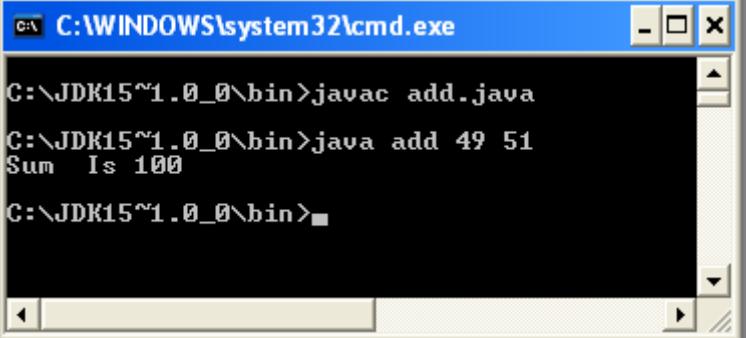
Aim :- Write a program to add two integer numbers using command line argument.

Explanation :- This program enable the user to add two integer numbers using command line

Program :-

```
class add
{
    public static void main(String str[])
    {
        int a,b,c;
        a=Integer.parseInt(str[0]);
        b=Integer.parseInt(str[1]);
        c=a+b;
        System.out.println("Sum Is =- " + c);
    }
}
```

Output :-



```
C:\WINDOWS\system32\cmd.exe
C:\JDK15~1.0_0\bin>javac add.java
C:\JDK15~1.0_0\bin>java add 49 51
Sum Is 100
C:\JDK15~1.0_0\bin>
```

Viva -Voice Questions:

1. What do you mean by command line argument programming.
2. What java uses compiler , interpreter or both.
3. Can I compile group of java files once?

EXPERIMENT NO. 4

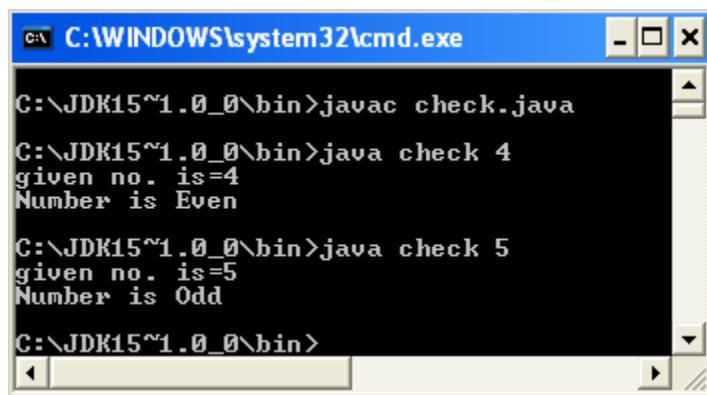
Aim: - Write a program to check whether the given number is even or odd using if-else statements.

Explanation :- This program demonstrate the simple use of if else by checking the number using modulo operator.

Program :-

```
class check
{
    public static void main(String str[])
    {
        int a;
        a=Integer.parseInt(str[0]);
        if(0==a%2)
        {
            System.out.println("given no. is="+a);
            System.out.println("Number is Even ");
        }
        else
        {
            System.out.println("given no. is="+a);
            System.out.println("Number is Odd ");
        } } }
```

Output :-



```
C:\WINDOWS\system32\cmd.exe
C:\JDK15~1.0_0\bin>javac check.java
C:\JDK15~1.0_0\bin>java check 4
given no. is=4
Number is Even

C:\JDK15~1.0_0\bin>java check 5
given no. is=5
Number is Odd

C:\JDK15~1.0_0\bin>
```

Viva - Voice Questions:

1. What is reserve word and how many?.
2. What is the difference between division and modulo operator.
3. What is jvm
4. What is jdk

EXPERIMENT NO. 5

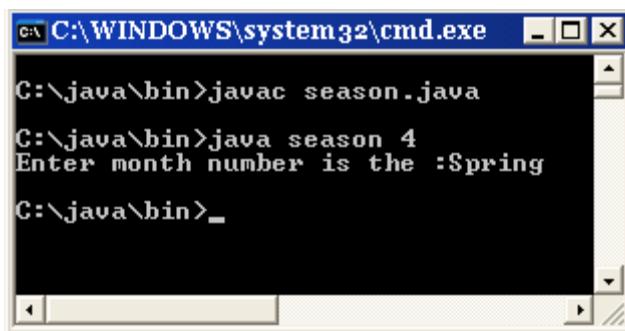
Aim :- Write a program to determine which season a particular month.

Explanation :- This program uses the logical operator with ladder if else statement.

Program :-

```
class season
{
    public static void main(String str[])
    {
        int a;
        String s;
        a=Integer.parseInt(str[0]);
        if(a==12||a==1||a==2)
            s="Winter";
        else
            if(a==3||a==4||a==5)
                s="Spring";
            else
                if(a==6||a==7||a==8)
                    s="Summer";
                else
                    if(a==9||a==10||a==11)
                        s="Autom";
                    else
                        s="Bogus Month";
        System.out.println("Enter month number is the :" + s)    } }
```

Output :-



```
C:\WINDOWS\system32\cmd.exe
C:\java\bin>javac season.java
C:\java\bin>java season 4
Enter month number is the : Spring
C:\java\bin>
```

Viva -Voice Questions:

1. What is the difference between logical and bitwise operator.
2. What is byte code
3. What language is the Java compiler and JVM written in?

EXPERIMENT NO. 6

Aim :- Write a program to Display menu (1.Add, 2.Sub, 3.Mul , 4.Div) using switch statement.

Explanation :-This program describe the uses of switch statement with 4 case,when particular case value matches code related with that casewill be executed other wise default scase will be executed.

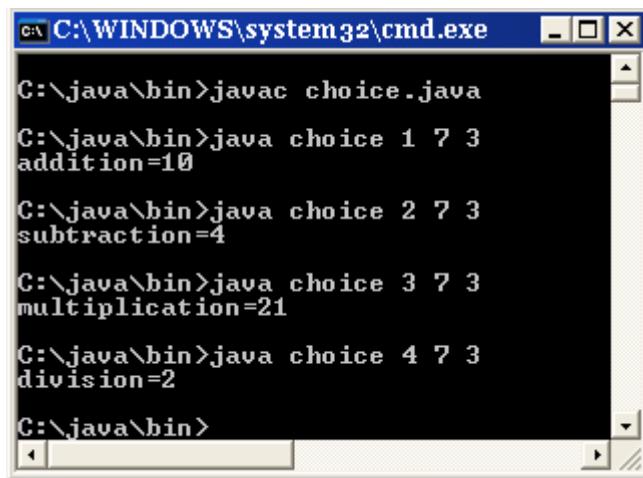
Program :-

```
class choice
{
    public static void main(String str[])
    {
        int a,b,c,d,k=0;
        a=Integer.parseInt(str[0]);
        b=Integer.parseInt(str[1]);
        c=Integer.parseInt(str[2]);

        do
        {
            switch(a)
            {
                case 1:
                {
                    d=b+c;
                    System.out.println("addition="+d);
                    break;
                }
                case 2:
                {
                    d=b-c;
                    System.out.println("subtraction"+d);
                    break;
                }
                case 3:
                {
                    d=b*c;
                    System.out.println("multiplication="+d);
                    break;
                }
                case 4:
                {
                    d=b/c;
                    System.out.println("division="+d);
                    break;
                }
            }
        }
    }
}
```

```
        System.out.println("division="+d);
        break;
    }
default : {
    System.out.println("Enter correct choice");
}
}
k++;
}
while(k<=0);
}
}
```

Output :-



```
C:\>C:\WINDOWS\system32\cmd.exe
C:\java\bin>javac choice.java
C:\java\bin>java choice 1 7 3
addition=10
C:\java\bin>java choice 2 7 3
subtraction=4
C:\java\bin>java choice 3 7 3
multiplication=21
C:\java\bin>java choice 4 7 3
division=2
C:\java\bin>
```

Viva - Voice Questions :

1. What is the difference between if and switch statement.
2. What is break and what it do.
3. Is there any limit to the length of an identifier?.

EXPERIMENT NO. 7

Aim: - Write a program to find the factorial of a given number while statement.

Explanation :- While statement is entry controlled loop statement 1st it evaluate condition then body of the code is executed.

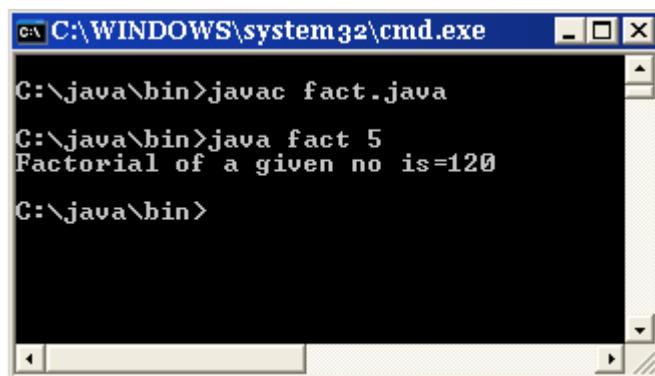
Program :-

```
class fact
{
    public static void main(String str[])
    {
        int num,fac=1,i=1;
        num=Integer.parseInt(str[0]);

        while(num>=i)
        {
            fac=fac*i;
            i++;
        }
        System.out.println("Factorial of a given no is="+fac);

    }
}
```

Output :-



The screenshot shows a Windows command prompt window titled 'C:\WINDOWS\system32\cmd.exe'. The window contains the following text:
C:\>java\bin>javac fact.java
C:\>java\bin>java fact 5
Factorial of a given no is=120
C:\>java\bin>

| Viva -Voice Questions :

1. What is the difference between while and do while loop.
2. What is the difference between break and continue statements.

EXPERIMENT NO. 8

Aim :- Write a program to reverse a 5digit number and calculate sum of its digit using for loop.

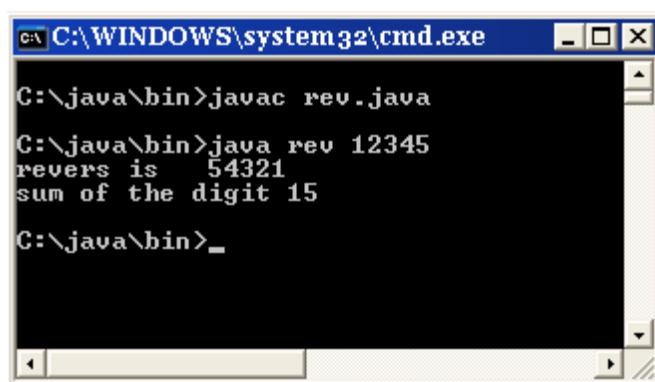
Explanation :- for statement is entry controlled loop statement 1st it evaluate condition then body of the code is executed in this we can reverse any integer number..

Program :-

```
class rev
{
    public static void main(String str[])
    {
        int a,b,sum=0,rev=0;
        a=Integer.parseInt(str[0]);
        for(;a>0;)
        {
            b=a%10;
            rev=rev*10+b;
            sum=sum+b;
            a=a/10;
        }

        System.out.println("revers is "+rev);
        System.out.println("sum of the digit "+sum);
    }
}
```

Output :-



The screenshot shows a command-line interface window titled 'C:\WINDOWS\system32\cmd.exe'. The user has typed 'C:\java\bin>javac rev.java' to compile the Java source code. After compilation, they run the program with the command 'C:\java\bin>java rev 12345'. The output displays the reversed number '54321' and the sum of the digits '15'.

Viva – Voice Questions :

1. What is the type casting.
2. How many types we can convert data

EXPERIMENT NO. 9

Aim: - Write a program to that use continue to print a triangular multiplication for 1 to 4.

```
1  
2 4  
3 6 9  
4 8 12 16
```

Explanation :- for statement is entry controlled loop statement 1st it evaluate condition then body of the code is executed. This is the nesting of for statement with continue label.

Program :-

```
class table  
{  
    public static void main(String str[])  
    {  
        huk:  
        for(int i=1;i<5;i++)  
        { for(int j=1;j<5;j++)  
        { if(j>i)  
        {  
            System.out.println();  
            continue huk; }  
            System.out.print(" "+i*j);  
        } }  
        System.out.println();  
    } }
```

Output :-

```
C:\> C:\WINDOWS\system32\cmd.exe  
C:\> C:\java\bin>javac table.java  
C:\> C:\java\bin>java table  
1  
2 4  
3 6 9  
4 8 12 16  
C:\>
```

Viva - Voice Questions :

1. What is the difference between continue and continue with label
2. What is the difference between break and break with label

EXPERIMENT NO. 10

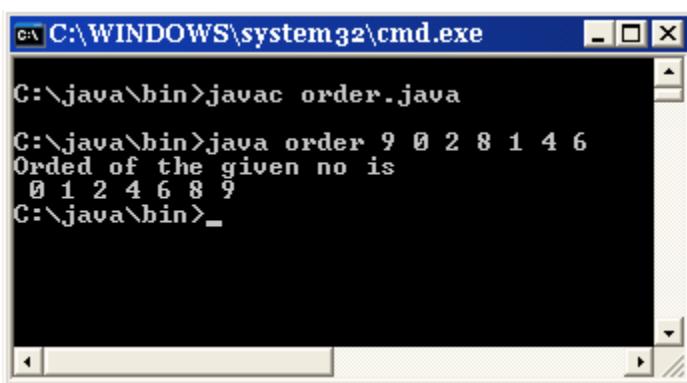
Aim :- Write a program to sort a list of 7 numbers in ascending order

Explanation :- This program demonstrate the uses of array, how to initialize and how to create memory for array elements.

Program :-

```
class order
{
    public static void main(String str[])
    {
        int a[],n;
        a=new int[10];
        for(int i=0;i<=6;i++)
            a[i]=Integer.parseInt(str[i]);
        for(int j=0;j<=6;j++)
        {
            for(int i=0;i<=6;i++)
            {
                if(a[j]<a[i])
                {
                    n=a[j];
                    a[j]=a[i];
                    a[i]=n;
                }
            }
        }
        System.out.println("Orded of the given no is ");
        for(int k=0;k<=6;k++)
            System.out.print(" "+a[k]);
    }
}
```

Output:-



```
C:\WINDOWS\system32\cmd.exe
C:\java\bin>javac order.java
C:\java\bin>java order 9 0 2 8 1 4 6
Orded of the given no is
 9 0 1 2 4 6 8
C:\java\bin>_
```

Viva –Voice Questions :

1. How do I copy an array?
2. What is the difference between simple variable and array.
3. How array in java is differ from c/c++

EXPERIMENT NO. 11

Aim :- Write a program to generate a pattern using 2D array.

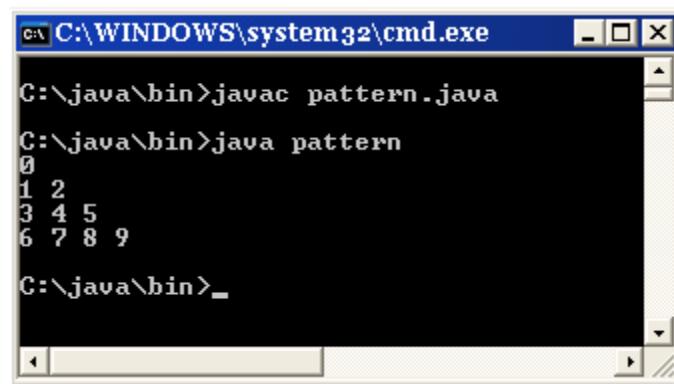
```
0  
1 2  
3 4 5  
6 7 8 9
```

Explanation :- This program demonstrate the uses of 2D array, how to initialize and how to create memory for array elements.

Program :-

```
class pattern  
{public static void main(String str[])  
{int toD[][]=new int[4][];  
    toD[0]=new int[1];  
    toD[1]=new int[2];  
    toD[2]=new int[3];  
    toD[3]=new int[4];  
    int i,j,k=0;  
    for(i=0;i<4;i++)  
        for(j=0;j<i+1;j++)  
        {  
            toD[i][j]=k;  
            k++;  
        }  
    for(i=0;i<4;i++)  
    {  
        for(j=0;j<i+1;j++)  
            System.out.print(toD[i][j]+" ");  
        System.out.println();  
    }}}
```

Output:-



```
C:\WINDOWS\system32\cmd.exe  
C:\java\bin>javac pattern.java  
C:\java\bin>java pattern  
0  
1 2  
3 4 5  
6 7 8 9  
C:\java\bin>
```

Viva – Voice Questions

1. How can we create memory for 4D array.
2. How do you deallocate an array in Java?