**1.Basic java program to identify list of tokens**

|  |
| --- |
| //public : keyword  //class: keyword  //Two: Identifier  //{ : special symbol or separator  //static: keyword  //void: keyword  //main: identifier  //(),[]: separators  //String: identifier  //args: identifier  public class Two {  public static void main(String[] args) {  //int: keyword  //a is an identifier  //= is an operator  //100 is a literal  //; is a separator or special symbol  int a=100;  int b=200;  int c=a+b;  System.out.println(c);  }  }  **Output:**  300 |

**2.Program on Identifier usage rules**

|  |
| --- |
| class First  {  public static void main(String args[])  {  int \_eno=1;  System.out.print(\_eno);  float $sal=200000.00f;  System.out.print($sal);  //int 1e=100; error  //String emp name="Madhu.K"; error  //int float=20.300f; error  }  }  **Output:**  1200000.0 |

**3.Example on variable declaration and initialization**

|  |
| --- |
| class First  {  public static void main(String args[])  {  int n; //variable declaration  //int: keyword as well as data type  //n is a name given to memory location  //; is separator    n=100; //variable initialization  System.out.println(n);  n=1000; //assigning a value  System.out.println(n);  }  }  **Output:**  100  1000 |

**4.Example on Literals**

|  |
| --- |
| class Second{      public static void main(String args[])      {          //literals demo          byte b=100;          short s=100;          int i=(int)100.45;          long l=100;          float f=(float)10.00;          double d1=100.00;          double d2=100.00d;          double d3=100.00D;          char ch1='a';          char ch2=97;          char ch3='\u0061';          System.err.printf("ch1=%c\n",ch1);          System.err.printf("ch2=%c\n",ch2);          System.err.printf("ch3=%c\n",ch3);          boolean b1=true;          boolean b2=false;          System.out.printf("b1=%s\n",b1);          System.out.printf("b2=%s\n",b2);      }  }  Output:  ch1=a  ch2=a  ch3=a  b1=true  b2=false |

**5.Example on how to declare a reference variable**

|  |
| --- |
| class Second{  public static void main(String args[])  {  String s1=null;  Second s2=null;  System.out.println("s1:\t"+s1);  System.out.println("s2:\t"+s2);  }  }  Output:  s1: null  s2: null |

**6.Another example on reference variables declaration(using subscripts)**

|  |
| --- |
| class Second{      public static void main(String args[])      {          String s1=null;          Second s2=null;          int[] arr1=null;          Second[][] arr2=null;          System.out.println("s1:\t"+s1);          System.out.println("s2:\t"+s2);          System.out.println("arr1:\t"+arr1);          System.out.println("arr2:\t"+arr2);      }  }  Output:  s1: null  s2: null  arr1: null  arr2: null |

**7.Example on concatenation**

|  |
| --- |
| class Second{      public static void main(String[] args)      {          int a=100,b=20;          String s1="a="+a;  //after concatenation we will get string as a result          //String s1="a=100"          System.out.println(s1);          String s2="tokkaley="+b;          System.out.println(s2);          int c=a+b;          System.out.println(  "orey anniyya resulteyntantey...."+120);      }  }  Output:  a=100  tokkaley=20  orey anniyya resulteyntantey....120 |

**8.Another example on concatenation operator usage**

|  |
| --- |
| class Third{  public static void main(String[] args)  { int a=10,b=5;  int c=a+b;  System.out.println(a+"+"+b+"="+c);  }  }  Output: |

**9.** **Example on Byte range**

|  |
| --- |
| public class Fourth  {  public static void main(String[] args)  {  byte b=128;  System.out.println("b:\t"+b);  }  }  **Output:**    **Another example on byte range**  public class Fourth  {  public static void main(String[] args)  {  byte b=(byte)128;  System.out.println("b:\t"+b);  }  }  **Output:**  b: -128  **Another example on byte operations**  public class Fourth  {  public static void main(String[] args)  {  byte b1=10;  byte b2=20;  byte b3=b1+b2;  System.out.println("b3:\t"+b3);  }  }  Output: |

**10.Example on packages**

|  |
| --- |
| //this is my sixth program  /\* multi line comments  Author: Balaji B  Date: 08-Feb-2025  \*/  /\*\* documentation comments  Org: Madhu Tech Skills  City: vijayawada  \*/  package p1; //creating a package by using a keyword called package  import java.lang.\*; //importing a package called java.lang  interface MyInterface{}  enum Colors{  }  @interface MyAnnotation{}  class Ayyo  {  static int s=1;  int a=2;  int c=a+s;  //c=a\*s; Error non declaration statements are not allowed here  public static void main(String[] args)  {  int a=2,b=3,c=a+b;  System.out.println("Ayyaaaa...");  System.out.println(); //it displays new line  //System.out.println(a,b,c); //error  //System.out.print(); //error  }  }  **Output:** |

**11.** **Example to declare multiple variables**

|  |
| --- |
| import java.lang.\*; //import statement  class Four  {  public static void main(String args[])  {  int a,b,c; //multiple variables declaration of same type  int x=10,y=20,z=0;// defining varaibles.  byte b;  short s;  int i;  long l;  //we can't declare multiple types of variables in a single statement;  }  } |

**12.Example on what error you will get if we use local variable without initializing it**

|  |
| --- |
| public class Seven {  public static void main(String[] args) {  int a,b,c; //3 local variables  System.out.println(a);  }  }  **Compilation error:**  Seven.java:4: error: variable a might not have been initialized  System.out.println(a);  ^  1 error |

**13.Example on Formatting Methods**

|  |
| --- |
| import java.util.Date;  public class Seven {  public static void main(String[] args) {  int a,b,c; //3 local variables  a=10;  b=3;  c=a-b;  System.out.format("Hello%n");  System.out.format("%d-%d=%d%n",a,b,c);  System.out.println(a+"-"+b+"="+c);    //Native method usage  long l=System.currentTimeMillis();  System.out.println("l:\t"+new Date(l));  }  }  **Output:**  Hello  10-3=7  10-3=7  l: Sat Feb 08 16:26:14 IST 2025 |

**14.Another Example on Formatting Methods**

|  |
| --- |
| import java.util.Date;  public class Seven  {  public static void main(String[] args)  {  String name="madhu";  int i=100;  float f=200;  double d=200;  char ch='A';  boolean bl=true;  System.out.printf("name:\t%s%n",name);  System.out.printf("i:\t%d%n",i);  System.out.printf("f:\t%.2f%n",f);  System.out.printf("d:\t%.3f%n",d);  System.out.printf("ch:\t%c%n",ch);  System.out.printf("bl:\t%s%n",bl);  }  }  **Output:**  name: madhu  i: 100  f: 200.00  d: 200.000  ch: A  bl: true |

**15.Example on how** **%s can be used for any type of object or value**

|  |
| --- |
| import java.util.Date;  public class Seven  {  public static void main(String[] args)  {  String name="madhu";  int i=100;  float f=200;  double d=200;  char ch='A';  boolean bl=true;  System.out.printf("name:\t%s%n",name);  System.out.printf("i:\t%s%n",i);  System.out.printf("f:\t%s%n",f);  System.out.printf("d:\t%s%n",d);  System.out.printf("ch:\t%s%n",ch);  System.out.printf("bl:\t%s%n",bl);  }  }  **Output:**  name: madhu  i: 100  f: 200.0  d: 200.0  ch: A  bl: true |

**16.Another Example on Formatting Methods**

|  |
| --- |
| import static java.lang.System.\*;  class FormatDemo3  { public static void main(String args[])  { long n = 261011;  System.out.printf ("%d%n",n); // --> "261011"  System.out.printf ("%09d%n",n); // --> "000261011"  System.out.printf ("%9d%n",n); // --> " 261011"  System.out.printf ("%,9d%n",n); // --> " 261,011"  System.out.printf ("%+,9d%n%n",n); // --> " +261,011"  }  }  **Output:**  261011  000261011  261011  261,011  +261,011 |

**17.Another Example on Formatting Methods**

|  |
| --- |
| public class Eight {  public static void main(String[] args) {  double pi =3.141593;  System.out.printf ("%f%n", pi); // --> "3.141593"  System.out.format("%.3f%n", pi); // --> "3.142"  System.out.format("%10.3f%n", pi); // --> " 3.142"  System.out.format("%-10.3f%n", pi); // --> "3.142 "// left justified  System.out.printf("%3f%n",pi); //it displays total value  System.out.printf("Madhu Tech Skills...");  }  }  **Output:**  3.141593  3.142  3.142  3.142  3.141593  Madhu Tech Skills... |

**18.Another Example on Formatting Methods**

|  |
| --- |
| import static java.lang.System.\*;  import java.util.\*;  class FormatDemo5  { public static void main(String args[])  { Date date=new Date();  System.out.println("Actual Date:\t"+date);  System.out.printf ("Month=%tB %n",date);  System.out.printf ("Day=%td%n",date);  System.out.printf ("Year=%tY%n",date);  Calendar c = Calendar.getInstance();  System.out.printf ("%tB %td, %tY%n", c, c, c); // --> "July 09, 2013"  System.out.printf ("%tb %te, %tY%n", c, c, c); // --> "Jul 9, 2013"  System.out.printf ("%tl:%tM %tp%n", c, c, c); // --> "2:34 am"  System.out.printf ("%tD%n", c); // --> "07/09/13"//month/day/year  }  }  **Output:**  Actual Date: Mon Feb 17 21:13:40 IST 2025  Month=February  Day=17  Year=2025  February 17, 2025  Feb 17, 2025  9:13 pm  02/17/25 |

**19.Another Example on Formatting Methods**

|  |
| --- |
| import static java.lang.System.\*;  import java.util.\*;  class FormatDemo6  { public static void main(String args[])  { Date sd=new Date();  out.println("SystemDate:\t"+sd);  out.format("%td-%tB-%tY%n",sd,sd,sd);  out.format("%te-%tb-%ty%n",sd,sd,sd);  out.printf("%tl:%tM:%tS %tp",sd,sd,sd,sd);  }  }  **Output:**  SystemDate: Mon Feb 17 21:14:33 IST 2025  17-February-2025  17-Feb-25  9:14:33 pm |

**20.** **A simple example on functions**

|  |
| --- |
| public class Nine  {  static void add(){  int a=10,b=3,c;  c=a+b;  System.out.printf("%d + %d = %d %n",a,b,c);  }  public static void main(String[] args) {  add();  }  }  **Output:**  10 + 3 = 13 |

**21.** **Another example on functions with parameters**

|  |
| --- |
| public class Nine  {  static void add()  {  int a=10,b=3,c;  c=a+b;  System.out.printf("%d + %d = %d %n",a,b,c);  }  static void sub(int a,int b){  int c;  c=a-b;  System.out.printf("%d - %d = %d %n",a,b,c);  }  public static void main(String[] args) {  add();  sub(100,200);  }  }  **Output**:  10 + 3 = 13  100 - 200 = -100 |

**22.** **Example on Types of functions**

|  |
| --- |
| public class Nine  {  //function without parameters and without return type  static void add()  {  int a=10,b=3,c;  c=a+b;  System.out.printf("%d + %d = %d %n",a,b,c);  }  //function with parameters and without return type  static void sub(int a,int b){  int c;  c=a-b;  System.out.printf("%d - %d = %d %n",a,b,c);  }  //function with parameters and with return type  static int multi(int a,int b)  {  int c=a\*b;  return c;  }  //function without parameters and with return type  static int div()  {  int a=10,b=3;  return a/b;  }  public static void main(String[] args) {  add();  sub(100,200); //to the sub function i am passing two arguments  int x=multi(10, 5); //to the multi() function i am passing two arguments and it is returning the result(int)  System.out.println("x:\t"+x);  int r1=x/2;  System.out.println("r1:\t"+r1);  System.out.println( div() );  }  }  **Output:**  10 + 3 = 13  100 - 200 = -100  x: 50  r1: 25  3 |

**23.Example on Variable length arguments**

|  |
| --- |
| public class Ten  {  static void display(String ename, int eno,int... marks)  {  System.out.printf(".....%s..with....eno....%d...marks....%n",ename,eno);  for(int mark:marks)  System.out.println(mark);  }  public static void main(String[] args)  {  display("Madhu.K",101,78,77,66,77,88);  display("Manish",102,78,77,66);  display("Lakshman",103,78,77,66);    }  }  **Output:**  .....Madhu.K..with....eno....101...marks....  78  77  66  77  88  .....Manish..with....eno....102...marks....  78  77  66  .....Lakshman..with....eno....103...marks....  78  77  66 |

**24.** **How to read the data from keyboard using readLine() of DataInputStream Class**

|  |
| --- |
| import java.io.DataInputStream;  import java.io.IOException;  public class Eleven {  public static void main(String[] args) throws IOException  {  //Creating object for DataInputStream class  DataInputStream dis=new DataInputStream(System.in);  System.out.print("Enter your name:\t");  String name=dis.readLine();  // name <- = <- "sambasivarao" <- readLine() <- sambasivarao <- keyboard  System.out.println("Hi "+name);    }  }  **Output:** |

**25.** **Example on Arithmetic Operators**

|  |
| --- |
| import java.io.DataInputStream;  import java.io.IOException;  public class Eleven {  public static void main(String[] args) throws IOException  {  DataInputStream dis=new DataInputStream(System.in);  System.out.print("Enter int:\t");  String s1=dis.readLine(); // a <- = <- "10" <- readLine() <- 10 <- keyboard  int a=Integer.parseInt(s1);  System.err.print("Enter another int value:\t");  String s2=dis.readLine();  int b=Integer.parseInt(s2);  System.out.println(a+b);  System.out.println(a-b);  System.out.println(a\*b);  System.out.println(a/b);  System.out.println(a%b);  }  }  **Output:**  Enter int: 10  Enter another int value: 2  12  8  20  5  0 |

**26.** **Example (where the public class name and file name is different)**

|  |
| --- |
| public class Demo  {  public static void main(String args[])  {  System.out.println("welcome..");  }  }  **Output:** |

**27.** **Example Without public class**

|  |
| --- |
| class Demo  {  public static void main(String args[])  {  System.out.println("welcome..");  }  }  **Output:** |

**28.** **Example on escape characters**

|  |
| --- |
| class Demo  {  public static void main(String args[])  {  System.out.print("MadhuTechSkills\nVijayawada\nNTR District\n");  System.out.print("Madhutechtttttt\tVijayawada\tNTR District\n");  System.out.print("\nABC\b\bxyz\n");  System.out.print("\nABC\rxyzijk\n");  System.out.print("\nABC\rx\n");  System.out.println("\"Yes\" Bank");  System.out.println("'Yes' Bank");  System.out.println("\'Yes\' Bank");  System.out.println("D:\trainings\Nanda\badri\raamu");  System.out.println("D:\\trainings\\nanda\\badri\\raamu");  System.out.printf("%-25s%-25s%-25s%n","Madhutechtttttt","Vijayawada","NTR District");  System.out.format("%-25s%-25s%-25s","Madhutechtttttt","Vijayawada","NTR District");  }  }  **Output:**  MadhuTechSkills  Vijayawada  NTR District  Madhutechtttttt Vijayawada NTR District  Axyz  xyzijk  xBC  "Yes" Bank  'Yes' Bank  'Yes' Bank  D: rainings  aamudri  D:\trainings\nanda\badri\raamu  Madhutechtttttt Vijayawada NTR District  Madhutechtttttt Vijayawada NTR District |

**29.** **Example on usage of readLine() method of BufferedReader class**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.IOException;  import java.io.InputStreamReader;  public class Eleven {  public static void main(String[] args) throws IOException  {  InputStreamReader isr=new InputStreamReader(System.in);  BufferedReader br=new BufferedReader(isr);  System.out.print("Enter int:\t");  String s1=br.readLine(); // a <- = <- "10" <- readLine() <- 10 <- keyboard  int a=Integer.parseInt(s1);  System.err.print("Enter another int value:\t");  String s2=br.readLine();  int b=Integer.parseInt(s2);  System.out.format("%d + %d = %d%n",a,b,a+b);  System.out.format("%d - %d = %d%n",a,b,a-b);  System.out.format("%d \* %d = %d%n",a,b,a\*b);  System.out.format("%d / %d = %d%n",a,b,a/b);  System.out.format("%d %% %d = %d%n",a,b,a%b);    }  }  **Output:**  Enter int: 12  Enter another int value: 3  12 + 3 = 15  12 - 3 = 9  12 \* 3 = 36  12 / 3 = 4  12 % 3 = 0 |

**30.** **Example on relational operators**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.IOException;  import java.io.InputStreamReader;  public class Twelve  {  public static void main(String[] args) throws IOException  {  InputStreamReader isr = new InputStreamReader(System.in);  BufferedReader br = new BufferedReader(isr);  System.out.print("Enter a number :\t");  int i = Integer.parseInt(br.readLine());  System.out.print("Enter another number :\t");  int j = Integer.parseInt(br.readLine());  System.out.println("i:\t "+i);  System.out.printf("j:\t%d %n",j);  // test case-1  //i=10  //j=5  boolean b1= i>j; //b1=true  boolean b2=i>=j; // (i>j or i==j) b2=true  boolean b3=i<j; //b3=false  boolean b4= i<=j; //i<j or i==j b4=false  boolean b5=i==j; //b5=false  boolean b6=i!=j; //b6=true  System.out.println("i>j:\t"+b1);  System.out.println("i>=j:\t"+b2);  System.out.println("i<j:\t"+b3);  System.out.println("i<=j:\t"+b4);  System.out.println("i==j:\t"+b5);  System.out.println("i!=j:\t"+b6);  }  }  **Output:**  Enter a number : 10  Enter another number : 5  i: 10  j: 5  i>j: true  i>=j: true  i<j: false  i<=j: false  i==j: false  i!=j: true |

**31.** **Example on parseBoolean() method which returns true**

|  |
| --- |
| public class Fourteen  {  public static void main(String[] args) {  System.err.println(Boolean.parseBoolean("true"));  System.err.println(Boolean.parseBoolean("truE"));  System.err.println(Boolean.parseBoolean("trUE"));  System.err.println(Boolean.parseBoolean("True"));  System.err.println(Boolean.parseBoolean("TRUE"));  }  }  **Output:**  true  true  true  true  true |

**32.** **Example on parseBoolean() method which returns false**

|  |
| --- |
| public class Fourteen  {  public static void main(String[] args) {  System.err.println(Boolean.parseBoolean("false"));  System.err.println(Boolean.parseBoolean("madhu"));  System.err.println(Boolean.parseBoolean("1234"));  System.err.println(Boolean.parseBoolean("Flaws"));  System.err.println(Boolean.parseBoolean("FALSE"));  System.err.println(Boolean.parseBoolean("TOKKALEY"));  System.err.println(Boolean.parseBoolean("1"));  System.err.println(Boolean.parseBoolean("C"));  }  }  **Output:**  false  false  false  false  false  false  false  false |

**33.** **Example on logical operators**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Thirteen {  public static void main(String[] args) throws Exception  {  InputStreamReader isr=new InputStreamReader(System.in);  BufferedReader br=new BufferedReader(isr);  System.out.print("Enter a boolean value:\t");  boolean a = Boolean.parseBoolean(br.readLine()); //"true"  System.out.print("Enter another boolean value:\t");  boolean b = Boolean.parseBoolean(br.readLine()); //"true"  System.out.println("a:\t"+a);  System.out.println("b:\t"+b);  System.out.println("a&&b:\t"+(a&&b));  System.out.println("a||b:\t"+(a||b));  System.out.println("!a:\t"+!a);  System.out.println("!b:\t"+!b);    }  }  **Output:**  Enter a boolean value: madhu  Enter another boolean value: TrUe  a: false  b: true  a&&b: false  a||b: true  !a: true  !b: false |

**34.** **How to read a single character (within a range of 0 to 255)?**

|  |
| --- |
| public class Fifteen {  public static void main(String[] args) throws Exception  {  System.out.println("Enter any character:\t");  int n=System.in.read(); //it reads only single character within range of 0 t 255 and returns it’s Unicode value( or ascii value)  System.out.println("n:\t"+n);  }  }  Output:  Enter any character:  A  n: 65 |

**35.** **Does JVM is able to display Telugu letter అ**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Fifteen {  public static void main(String[] args) throws Exception  {  char ch1='\u0C05'; //in ch1 i am storing telugu letter అ it's unicode value is 3077  System.out.println("int(ch1):\t"+(int)ch1);  System.out.println("int:\t"+ch1);  }  }  **Output:**  int(ch1): 3077  int: ? |

**36.** **Example on documentation comments**

|  |
| --- |
| **Comments.java**  package pack1; //it is a package statement: by using it i am creating pack1 package  /\*  importing all the static methods and fields of Integer class,  so that we can use them direclty without using class name.  \*/  import static java.lang.Integer.\*;  //this is a main method class  public class Comments {  /\*\*  main() method is the starting point of the program  \*/  public static void main(String[] args)  {  System.out.println("Comments example...");  }  }  **MyMath.java**  package pack1;  /\*\*  it is a class which contains methods to perform  arithmetic operations. it is existed in pack1 package  \*/  public class MyMath {  public int add(int a,int b){  return a+b;  }  public int sub(int a,int b){  return a-b;  }  public int multi(int a,int b){  return a\*b;  }  }  **How to generate documentation for the above programs** |

**37.** **Example on if statement**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.IOException;  import java.io.InputStreamReader;  public class SeventeenIfDemo {  public static void main(String[] args) throws IOException {  InputStreamReader isr=new InputStreamReader(System.in);  BufferedReader br= new BufferedReader(isr);  System.out.print("Enter a value:\t");  String s1=br.readLine();  int x=Integer.parseInt(s1);  System.out.print("Enter another value:\t");  String s2=br.readLine();  int y=Integer.parseInt(s2);  if (x>y){  System.out.println("true");  }  }  }  **Output:**  Enter a value: 15  Enter another value: 4  true |

**38.Example on If…else…**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.IOException;  import java.io.InputStreamReader;  public class Eighteen {  public static void main(String[] args) throws IOException  {  InputStreamReader isr=new InputStreamReader(System.in);  BufferedReader br=new BufferedReader(isr);  System.out.print("Enter a value:\t");  float x=Float.parseFloat(br.readLine());  System.out.print("Enter anothor value:\t");  float y=Float.parseFloat(br.readLine());  if (x > y)  System.out.printf("%.2f is Bigger Number",x);  else  System.out.printf("%.2f is Bigger Number",y);  }  }  **Output:**  Enter a value: 10.90  Enter anothor value: 11.00  11.00 is Bigger Number |

**39.** **Example on else..if... ladder usage to performing arithmetic operation based on the option you have given**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  import static java.lang.Integer.parseInt;  public class Nineteen {  public static void main(String[] args) throws Exception  {  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));  System.out.println("1.add");  System.out.println("2.sub");  System.out.println("3.multiply");  System.out.println("4.div");  System.out.println("5.modulus");  System.out.println("Option Please:\t");  int opt=parseInt(br.readLine());  if(opt>=1 && opt<=5)  {  System.out.print("Enter first int:\t");  int a=parseInt(br.readLine());  System.out.print("Enter second int:\t");  int b=parseInt(br.readLine());  if(opt==1)  System.err.printf("%d + %d = %d",a,b,a+b);  else if(opt==2)  System.err.printf("%d - %d = %d",a,b,a-b);  else if(opt==3)  System.err.printf("%d \* %d = %d",a,b,a\*b);  else if(opt==4)  System.err.printf("%d / %d = %d",a,b,a/b);  else  System.err.printf("%d %% %d = %d",a,b,a%b);  }else{  System.out.println("Given Option is Invalid");  }    }  }  **Output:**  1.add  2.sub  3.multiply  4.div  5.modulus  Option Please:  10  Given Option is Invalid |

**40.** **Example on usage of switch**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  import static java.lang.Integer.parseInt;  public class Nineteen {  public static void main(String[] args) throws Exception  {  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));  System.out.println("1.add");  System.out.println("2.sub");  System.out.println("3.multiply");  System.out.println("4.div");  System.out.println("5.modulus");  System.out.println("Option Please:\t");  int opt=parseInt(br.readLine());  if(opt>=1 && opt<=5)  {  System.out.print("Enter first int:\t");  int a=parseInt(br.readLine());  System.out.print("Enter second int:\t");  int b=parseInt(br.readLine());  switch (opt) {  case 1:  System.err.printf("%d + %d = %d",a,b,a+b);  break;  case 2:  System.err.printf("%d - %d = %d",a,b,a-b);  break;  case 3:  System.err.printf("%d \* %d = %d",a,b,a\*b);  break;  case 4:  System.err.printf("%d / %d = %d",a,b,a/b);  break;  case 5:  System.err.printf("%d %% %d = %d",a,b,a%b);  }  }else{  System.out.println("Given Option is Invalid");  }  }  }  **Output:**  1.add  2.sub  3.multiply  4.div  5.modulus  Option Please:  2  Enter first int: 10  Enter second int: 2  10 - 2 = 8 |

**41.** **Switch Statement (with advanced features) without break statement but behaves like old switch statement**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  import static java.lang.Integer.parseInt;  public class Nineteen {  public static void main(String[] args) throws Exception  {  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));  System.out.println("1.add");  System.out.println("2.sub");  System.out.println("3.multiply");  System.out.println("4.div");  System.out.println("5.modulus");  System.out.println("Option Please:\t");  int opt=parseInt(br.readLine());  System.out.print("Enter first int:\t");  int a=parseInt(br.readLine());  System.out.print("Enter second int:\t");  int b=parseInt(br.readLine());  switch (opt) {  case 1->System.err.printf("%d + %d = %d",a,b,a+b);  case 2->System.err.printf("%d - %d = %d",a,b,a-b);  case 3->System.err.printf("%d \* %d = %d",a,b,a\*b);  case 4->System.err.printf("%d / %d = %d",a,b,a/b);  case 5->System.err.printf("%d %% %d = %d",a,b,a%b);  default->System.out.println("Invalid Option..");  }  }  }  **Output:**  1.add  2.sub  3.multiply  4.div  5.modulus  Option Please:  1  Enter first int: 10  Enter second int: 2  10 + 2 = 12 |

**42.** **Example on switch expression**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  import static java.lang.Integer.parseInt;  public class Nineteen {  public static void main(String[] args) throws Exception  {  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));  System.out.println("1.add");  System.out.println("2.sub");  System.out.println("3.multiply");  System.out.println("4.div");  System.out.println("5.modulus");  System.out.println("Option Please:\t");  int opt=parseInt(br.readLine());  System.out.print("Enter first int:\t");  int a=parseInt(br.readLine());  System.out.print("Enter second int:\t");  int b=parseInt(br.readLine());  int result=switch (opt) {  case 1->{  int c=a+b;  System.out.println("chachinodaaa...");  yield c;}  case 2->{yield a-b;}  case 3->{yield a\*b;}  case 4->{yield a/b;}  case 5->{yield a\*b;}  default->{throw new RuntimeException("Invalid Option");}  };  System.out.println("Result:\t"+result);  }  }  **Output:**  1.add  2.sub  3.multiply  4.div  5.modulus  Option Please:  1  Enter first int: 10  Enter second int: 2  chachinodaaa...  Result: 12 |

**43.** **Example on read() method**

|  |
| --- |
| /\*  Program: to read a single character from keyboard  \*/  import java.lang.\*;  class Nine  {  //Naming convention of a class: Every word first letter capital  public static void main(String args[])throws Exception  { System.out.print("Enter any character:\t");  int uni\_code=System.in.read();  System.out.println("Unicode value of Given Character:\t"+uni\_code);  }  }  **Output:**  C:\Users\Madhu.K\Documents\JavaPrograms-1>java Nine  Enter any character:  Unicode value of Given Character: 32  C:\Users\Madhu.K\Documents\JavaPrograms-1>java Nine  Enter any character:  Unicode value of Given Character: 13  C:\Users\Madhu.K\Documents\JavaPrograms-1>java Nine  Enter any character: &  Unicode value of Given Character: 38  C:\Users\Madhu.K\Documents\JavaPrograms-1>java Nine  Enter any character: madhu  Unicode value of Given Character: 109 |

**44.Using else-if ladder to find the largest of three numbers**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.IOException;  import java.io.InputStreamReader;  class First{  public static void main(String[] args) throws IOException {  InputStreamReader isr = new InputStreamReader(System.in);  BufferedReader br = new BufferedReader(isr);  System.out.print("Enter x value:\t");  int x = Integer.parseInt(br.readLine());  System.out.print("Enter y value:\t");  int y = Integer.parseInt(br.readLine());  System.out.print("Enter z value:\t");  int z = Integer.parseInt(br.readLine());  if (x==y && x>z)  System.out.printf("x=%d,y=%d are same and larger than z=%d",x,y,z);  else if(x==z && x>y)  System.out.printf("x=%d,z=%d are same and larger than y=%d",x,z,y);  else if(y==z && y>x)  System.out.printf("y=%d,z=%d are same and larger than x=%d",y,z,x);  else if (x==y && y==z)  System.out.printf("x=y=z=%d and x,y,z are same ",x);  else if(x>y && x>z)  if(y==z)  System.err.printf("X=%d is larger and y=%d,z=%d are same",x,y,z);  else  System.out.printf("X=%d is larger",x);  else if(y>x && y>z)  if(x==z)  System.err.printf("y=%d is larger and x=%d,z=%d are same",y,x,z);  else  System.out.printf("y=%d is larger",y);  else  if(x==y)  System.out.printf("z=%d is larger and x=%d,y=%d are same",z,x,y);  else  System.out.printf("z=%d is larger",z);  }  }  **Output:**  Enter x value: 20  Enter y value: 30  Enter z value: 20  y=30 is larger and x=20,z=20 are same |

**45.Factors of a given number**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Fact {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  int i=1;  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  System.out.println("Factors of given number "+n+" are:");  while(i<=n){  if(n%i==0){  System.out.println(i);  }  i++;  }  }  }  **Output:**  Enter a number  8  Factors of given number 8 are:  1  2  4  8 |

**46.Given number is prime or not**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Prime {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  int i =1;  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  int count=0;  while(i<=n)  {  if(n%i==0){  count++;  }  i++;  }  if(count==2)  System.out.println("Given number "+n+" is Prime");  else  System.out.println("Given number "+n+" is not Prime");  }  }  **Output:**  Enter a number  17  Given number 17 is Prime |

**47.Factorial Of a given number**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Factorial {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  int i=1,s=1;  System.out.println("Enter a number upto the Factorial you want");  int n=Integer.parseInt(br.readLine());  while(i<=n){  s=s\*i;  i++;  }  System.out.printf("Factorial of %d is : %d",n,s);  }  }  **Output:**  Enter a number upto the Factorial you want  5  Factorial of 5 is : 120 |

**48.Program to find xy**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Power {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  System.out.println("Enter x value");  int x=Integer.parseInt(br.readLine());  System.out.println("Enter y value");  int y=Integer.parseInt(br.readLine());  int i=1,s=1;  while(i<=y){  s=s\*x;  i++;  }  System.out.println("value of "+x+" power "+y+" is: "+s);  }  }  **Output:**  Enter x value  2  Enter y value  3  value of 2 power 3 is: 8 |

**49.To print Digits in reverse of a given number**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Digits {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  while(n>0){  int rem=n%10;  System.out.println(rem);  n=n/10;  }  }  }  **Output:**  Enter a number  123  3  2  1 |

**50.Program to check whether the given number is Armstrong or not**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Armstrong {  public static int countDigits(int num) {  int count = 0;  while (num > 0) {  num /= 10;  count++;  }  return count;  }  public static void main(String[] args) throws Exception {  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));  System.out.println("Enter a number:");  int num = Integer.parseInt(br.readLine());  int temp = num;  int sum = 0;  int digitCount = countDigits(num);  while (temp > 0) {  int digit = temp % 10;  sum += (int) Math.pow(digit, digitCount);  temp /= 10;  }  if (sum == num) {  System.out.println(num + " is an Armstrong number.");  } else {  System.out.println(num + " is not an Armstrong number.");  }  }  }  **Output:**  Enter a number:  1634  1634 is an Armstrong number. |

**51.Program to print reverse of a number**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Reverse {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  int original=n;  int reverse=0;  while(n>0){  int rem=n%10;  reverse=reverse\*10+rem;  n=n/10;  }  System.out.printf("Reverse of %d is %d",original,reverse);  }  }  **Output:**  Enter a number  123  Reverse of 123 is 321 |

**52. Program to check whether the given number is Palindrome or not**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Palindrome {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  int original=n;  int reverse=0;  while(n>0){  int rem=n%10;  reverse=reverse\*10+rem;  n=n/10;  }  if(original==reverse)  System.out.printf("Given number %d is palindrome",original);  else  System.out.printf("Given number %d is not a palindrome",original);  }  }  **Output:**  Enter a number  121  Given number 121 is palindrome |

**53. Program to check whether the given number is Perfect or not**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Perfect {  public static void main(String[] args) throws Exception  {  BufferedReader br = new BufferedReader( new InputStreamReader(System.in));  System.out.println("Enter a number");  int n=Integer.parseInt(br.readLine());  int og=n;  int i=1,s=0;  while(i<n){  if(n%i==0)  {  s=s+i;  }  i++;  }  if(og==s)  System.out.printf("Given number %d is perfect number",og);  else  System.out.printf("Given number %d is not a perfect number",og);  }  }  **Output:**  Enter a number  25  Given number 25 is not a perfect number |

**54.** **Program to check whether the given number is Strong or not**

|  |
| --- |
| import java.io.BufferedReader;  import java.io.InputStreamReader;  public class Strongnumber {  static int fact(int n){  int i=1;  int fact=1;  while(i<=n){  fact =fact\*i;  i++;  }  return fact;  }  public static void main(String[] args) throws Exception {  BufferedReader br=new BufferedReader(new InputStreamReader(System.in));  System.out.println("Enter a number to check it is strong number or not");  int n =Integer.parseInt(br.readLine());  int sum=0,temp,temp1=n;  while(n>0){  temp=n%10;  sum=sum+fact(temp);  n=n/10;  }  if(temp1==sum)  System.out.printf("%d is a strong number",temp1);  else  System.out.printf("%d is not a strong number",temp1);  }  }  **Output:**  145  145 is a strong number |

**55.** **Print Even Numbers from 1 to 20**

**56.** **Multiplication Table of a Number**

**57.** **Fibonacci Series up to n Terms**

**58.** **Find the Largest Digit in a Number**

**59.** **Print the ASCII Values of Characters A to Z**

**60.** **Find GCD of Two Numbers**

**61.** **Find LCM of Two Numbers**

**62.** **Print Floyd’s Triangle**

**63.** **Print Pascal's Triangle**

**64.** **Print Pyramid Pattern**

**65. Print Inverted Pyramid Pattern**

**66.** **Count Vowels in a String**

**67.** **Count Occurrences of a Character in a String**

**68.** **Print Diamond Pattern**

**69.** **Neon Number**

**70.** **Automorphic number**

**71.** **Harshad number**