**Java Basic Programs**

**1. Write a java program to create variable of type char, short, int, float and double. Each - should be initialized and their values are displayed.**

| class test1  {  public static void main(String args[ ])  {  byte a=1;  short b=2;  int c=7;  float d=3.14f;  double e=2.888d;  char f='A';  System.out.println("Byte :: "+a);  System.out.println("Short :: "+b);  System.out.println("Integer :: "+c);  System.out.println("Float :: "+d);  System.out.println("Double :: "+e);  System.out.println("Char :: "+f);  }  } | **OUTPUT**  Byte :: 1  Short :: 2  Integer :: 7  Float :: 3.14  Double :: 2.888  Char :: A |
| --- | --- |

**2**. **Write a java program that declares integer variable and float variable. Initialize them, - - add and multiply both variables and print the output.**

| class test2  {  public static void main(String args[ ])  {  int a=55;  float b=67;  System.out.println("Addition :: "+(a+b));  System.out.println("Multiply :: "+(a\*b));  }  } | **OUTPUT**  Addition :: 122.0  Multiply :: 3685.0 |
| --- | --- |

**3. Write a java program to swap two integer numbers.**

| import java.util.Scanner;  class test3  {  public static void main(String args[ ])  {  int temp;  Scanner s=new Scanner(System.in);  System.out.print("Enter number 1 : ");  int a=s.nextInt();  System.out.print("Enter number 2 : ");  int b=s.nextInt();  temp=a;  a=b;  b=temp;  System.out.println("number 1 :: "+a);  System.out.println("number 2 :: "+b);  }  } | **OUTPUT**  Enter number 1 : 34  Enter number 2 : 45  number 1 :: 45  number 2 :: 34 |
| --- | --- |

**4. Write a java program to Check Even or Odd Integers.**

| import java.util.Scanner;  class test4  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a number : ");  int n=s.nextInt();  if(n%2==0)  {  System.out.print(n+" is even number");  }  else  {  System.out.print(n+" is odd number");  }  }  } | **OUTPUT**  Enter a number : 56  56 is even number  Enter a number : 89  89 is odd number |
| --- | --- |

**5. Write a Java Program to Find Largest Among 3 Numbers.**

| import java.util.Scanner;  class test5  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter First Number : ");  int a=s.nextInt();  System.out.print("Enter Second Number : ");  int b=s.nextInt();  System.out.print("Enter Third Number : ");  int c=s.nextInt();  if(a>b && a>c)  {  System.out.print(a+" is largest Number");  }  else if(b>c)  {  System.out.print(b+" is largest Number");  }  else  {  System.out.print(c+" is largest Number");  }  }  }  **OUTPUT**  Enter First Number : 56  Enter Second Number : 89  Enter Third Number : 45  89 is largest Number |
| --- |

**6. Write a Java Program to Display All Prime Numbers from 1 to N.**

**7. Write a Java Program to Check Leap Year.**

**8. Write a Java Program to Check Armstrong Number between Two Integers.**

**9. Write a Java Program to Check whether input character is vowel or consonant.**

**10. Write a Java Program to Find Factorial of a number.**

**11. Write a Java Program to Find Even Sum of Fibonacci Series Till number N.**

**12. Write a Java Program to Calculate Simple Interest.**

**13. Write a Java Program to Calculate Compound Interest.**

**14. Write a Java Program to Find the Perimeter of a Rectangle.**

**Java 1-D Array Programs**

**15. Write a java program that initialize 1-D Array and display length of the array and its - - elements.**

| import java.util.Scanner;  class test15  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  System.out.println("output :: ");  int count=0;  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  count++;  }  System.out.println("length of the array :: "+count);  }  } | **OUTPUT**  Enter a range : 4  Enter an element : 34  Enter an element : 56  Enter an element : 78  Enter an element : 12  output ::  34  56  78  12  length of the array :: 4 |
| --- | --- |

**16. Write a Java Program to Search an Element in an Array with its sum.**

| import java.util.Scanner;  class test16  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  System.out.print("Enter a value which you want to search :: ");  int x=s.nextInt();  int flag=0,cnt=0;  for(int i=0;i<n;i++)  {  if(a[i]==x)  {  flag=1;  cnt++;  }  }  if(flag==1)  {  System.out.println("Element is found and its count is :: "+cnt);  }  else  {  System.out.println("Element does not find");  }  }  }  **OUTPUT**  Enter a range : 5  Enter an element : 2  Enter an element : 3  Enter an element : 2  Enter an element : 2  Enter an element : 3  Enter a value which you want to search :: 2  Element is found and its count is :: 3 |
| --- |

**17. Write a Java Program to Find the Largest Element in an Array.**

| import java.util.Scanner;  class test17  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int max=a[0];  for(int i=0;i<n;i++)  {  if(a[i]>max)  {  max=a[i];  }  }  System.out.println("Maximum element in array :: "+max);  }  }  **OUTPUT**  Enter a range : 4  Enter an element : 23  Enter an element : 67  Enter an element : 12  Enter an element : 34  Maximum element in array :: 67 |
| --- |

**18. Write a Java Program to Sort an Array.**

| import java.util.Arrays;  import java.util.Scanner;  class test18  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int[ ] a=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  Arrays.sort(a);  System.out.println("Shorted Array is :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 4  Enter an element : 67  Enter an element : 23  Enter an element : 89  Enter an element : 12  Shorted Array is ::  12  23  67  89 |
| --- | --- |

**19. Write a Java Program to Sort the Elements of an Array in Descending Order.**

| import java.util.Scanner;  class test19  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int temp;  for(int i=0;i<n;i++)  {  for(int j=i+1;j<n;j++)  {  if(a[i]<a[j])  {  temp=a[i];  a[i]=a[j];  a[j]=temp;  }  }  }  System.out.println("Array in descending order :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 5  Enter an element : 12  Enter an element : 34  Enter an element : 78  Enter an element : 56  Enter an element : 23  Array in descending order ::  78  56  34  23  12 |
| --- | --- |

**20. Write a Java Program to Sort the Elements of an Array in Ascending Order.**

| import java.util.Scanner;  class test20  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a[i]=s.nextInt();  }  int temp;  for(int i=0;i<n;i++)  {  for(int j=i+1;j<n;j++)  {  if(a[i]>a[j])  {  temp=a[i];  a[i]=a[j];  a[j]=temp;  }  }  }  System.out.println("Array in Ascending order :: ");  for(int i=0;i<n;i++)  {  System.out.println(a[i]);  }  }  } | **OUTPUT**  Enter a range : 5  Enter an element : 67  Enter an element : 12  Enter an element : 56  Enter an element : 34  Enter an element : 90  Array in Ascending order ::  12  34  56  67  90 |
| --- | --- |

**21. Write a Java Program to Remove All Occurrences of an Element in an Array.**

| import java.util.Arrays;  import java.util.Scanner;  class test21  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a1[ ]=new int[n];  for(int i=0;i<n;i++)  {  System.out.print("Enter an element : ");  a1[i]=s.nextInt();  }  System.out.print("Enter an element which you want to remove :: ");  int r=s.nextInt();  int cnt=0;  for(int i=0;i<a1.length;i++)  {  if(a1[i]==r)  {  cnt++;  }  }  int a2[ ]=new int[a1.length-cnt];  int id=0;  for(int i=0;i<n;i++)  {  if(a1[i]!=r)  {  a2[id]=a1[i];  id++;  }  }  System.out.println("Original array is :: "+Arrays.toString(a1));  System.out.println("Modified array is :: "+Arrays.toString(a2));  }  }  **OUTPUT**  Enter a range : 5  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 2  Enter an element which you want to remove :: 2  Original array is :: [1, 2, 3, 4, 2]  Modified array is :: [1, 3, 4] |
| --- |

**Java 2-D Arrays (Matrix) Programs**

**22. Write a Java Program to Print a 2D Array.**

| import java.util.Scanner;  class test22  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ][ ]=new int[n][n];  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print("Enter an element : ");  a[i][j]=s.nextInt();  }  }  System.out.println("Matrix :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+a[i][j]);  }  System.out.println(" ");  }  }  }  **OUTPUT**  Enter a range : 3  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 5  Enter an element : 6  Enter an element : 7  Enter an element : 8  Enter an element : 9  Matrix ::  1 2 3  4 5 6  7 8 9 |
| --- |

**23. Write a Java Program to Add, Sub, Mul, Div of Two Matrices. [use menu**

**driven concept].**

**24. Write a Java Program to Find the Transpose.**

| import java.util.Scanner;  class test23  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a range : ");  int n=s.nextInt();  int a[ ][ ]=new int[n][n];  int trans[ ][ ]=new int[n][n];  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print("Enter an element : ");  a[i][j]=s.nextInt();  }  }  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  trans[j][i]=a[i][j];  }  }  System.out.println("Matrix :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+a[i][j]);  }  System.out.println(" ");  }  System.out.println("Transpose :: ");  for(int i=0;i<n;i++)  {  for(int j=0;j<n;j++)  {  System.out.print(" "+trans[i][j]);  }  System.out.println(" ");  }  }  }  **OUTPUT**  Enter a range : 3  Enter an element : 1  Enter an element : 2  Enter an element : 3  Enter an element : 4  Enter an element : 5  Enter an element : 6  Enter an element : 7  Enter an element : 8  Enter an element : 9  Matrix ::  1 2 3  4 5 6  7 8 9  Transpose ::  1 4 7  2 5 8  3 6 9 | |
| --- | --- |

**Java String Programs**

**25. Write a Java Program to Get a Character From the Given String.**

| import java.util.Scanner;  class test25  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  System.out.print("Enter an index position : ");  int pos=s.nextInt();  char result=str.charAt(pos);  System.out.print("Character is :: "+result);  }  } | **OUTPUT**  Enter a string : HELLO  Enter an index position : 3  Character is :: L |
| --- | --- |

**26. Write a Java Program to Replace a Character at a Specific Index.**

| import java.util.Scanner;  class test26  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  System.out.print("Enter an index : ");  int id=s.nextInt();  System.out.print("Enter a character : ");  char ch=s.next().charAt(0);  if(id>=0 && id<=str.length())  {  char[ ] char\_arr=str.toCharArray( );  char\_arr[id]=ch;  String update=new String(char\_arr);  System.out.println("Original string : "+str);  System.out.println("New string : "+update);  }  else  {  System.out.println("Invalid Index");  }  }  } | **OUTPUT**  Enter a string : ben  Enter an index : 0  Enter a character : t  Original string : ben  New string : ten  Enter a string : ben  Enter an index : 4  Enter a character : t  Invalid Index |
| --- | --- |

**27. Write a Java Program to Reverse a string.**

| import java.util.Scanner;  class test27  {  public static void main(String args[ ])  {    Scanner s=new Scanner(System.in);  System.out.println("Enter a string : ");  String str1=s.nextLine();  String str2=" ";  int len=str1.length()-1;  for(int i=len;i>=0;i--)  {  str2=str2+str1.charAt(i);  }  System.out.println("Reverse string is :: ");  System.out.print(str2);  }  } | **OUTPUT**  Enter a string :  Hello Student  Reverse string is ::  tnedutS olleH |
| --- | --- |

**28. Write a Java Program to Sort a string.**

| import java.util.Arrays;  import java.util.Scanner;  class test28  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter a string : ");  String str=s.nextLine();  char[ ] ch\_arr=str.toCharArray();  Arrays.sort(ch\_arr);  System.out.println("Original string : "+str);  System.out.print("Sorted string :: ");  System.out.print(ch\_arr);  }  } | **OUTPUT**  Enter a string : opcy  Original string : opcy  Sorted string :: copy |
| --- | --- |

**29. Write a Java Program to Compare two strings.**

| import java.util.Scanner;  class test29  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.print("Enter string 1 : ");  String s1=s.nextLine();  System.out.print("Enter string 2 : ");  String s2=s.nextLine();  int result=s1.compareTo(s2);  if(result==0)  {  System.out.println("Both strings are same");  }  else  {  System.out.println("Both strings are not same");  }  }  }  **OUTPUT**  Enter string 1 : Hello  Enter string 2 : Hello  Both strings are same  Enter string 1 : Hello  Enter string 2 : hello  Both strings are not same |
| --- |

**30. Write a Java Program to Print even length words.**

| import java.util.Scanner;  class test30  {  public static void main(String args[ ])  {  Scanner s=new Scanner(System.in);  System.out.println("Enter a string : ");  String str=s.nextLine( );  String[ ] word=str.split(" ");  System.out.println("even length words :: ");  for(int i=0;i<word.length;i++)  {  if(word[i].length()%2==0)  {  System.out.println(word[i]);  }  }  }  } | **OUTPUT**  Enter a string :  i did not understand this lesson  Even length words ::  understand  this  lesson |
| --- | --- |