* **What is the key benefit of inheritance in Java?**a) Increased memory usage  
  b) Code reuse  
  c) Faster compilation  
  d) Simplifies input/output

**option - B**

* **Which of the following is a type of polymorphism in Java?**a) Compilation polymorphism  
  b) Method overriding  
  c) Variable overriding  
  d) Multiple inheritance

**option - A**

* **In Java, which keyword is used to prevent a class from being inherited?**a) static  
  b) final  
  c) const  
  d) private

**option - B**

* **Which of the following is true about abstract classes in Java?**a) Abstract classes cannot have constructors  
  b) Abstract classes can have final methods  
  c) Abstract classes must have only abstract methods  
  d) An object can be created from an abstract class

**option - B**

* **What is method overloading in Java?**a) Multiple methods with the same name but different parameter types  
  b) Defining methods with the same name and same parameter list  
  c) Using inheritance to override methods  
  d) Using interface methods in derived classes

**option - A**

* **What is encapsulation in Java?**a) The ability to use the same method name with different signatures  
  b) The process of wrapping data and methods into a single unit  
  c) Accessing members of one class from another  
  d) Dividing a program into smaller parts

**option - B**

* **Which of the following allows a class to inherit from multiple classes?**a) Inheritance  
  b) Interface  
  c) Overloading  
  d) Abstract Class

**option - B**

* **What is the main advantage of using interfaces in Java?**a) Allows multiple inheritance  
  b) Provides concrete methods  
  c) Improves the speed of execution  
  d) Reduces the size of the code

**option - A**

* **What does the 'super' keyword refer to in Java?**a) Parent class constructor  
  b) Current class object  
  c) Child class constructor  
  d) None of the above

**option - A**

* **In method overriding, which of the following must match between the parent and child class methods?**a) Method name  
  b) Return type  
  c) Argument list  
  d) All of the above

**option - D**

* **Which of the following correctly declares an array in Java?**a) int arr[10];  
  b) int arr[] = new int[10];  
  c) arr{10};  
  d) array arr[10];

**option - B**

* **What will be the output of the following code snippet?**
* int[] arr = {1, 2, 3, 4, 5};
* System.out.println(arr[2]);
* a) 1  
  b) 2  
  c) 3  
  d) 4

**option - C**

* **Which of the following is used to find the length of an array in Java?**a) length()  
  b) len()  
  c) size()  
  d) length

**option - D**

* **How do you sort an array in Java?**a) Arrays.sort()  
  b) Collections.sort()  
  c) Array.sort()  
  d) Collections.arraySort()

**option - A**

* **What will happen if we try to access an index outside the array size in Java?**a) IndexOutOfBoundsException  
  b) NullPointerException  
  c) ArrayIndexOutOfBoundsException  
  d) InvalidIndexException

**option - A**

* **Strings MCQs**
* **Which of the following is used to concatenate two strings in Java?**a) +  
  b) concat()  
  c) append()  
  d) Both a and b

**option - D**

* **What is the output of the following code?**
* String str = "Java";
* System.out.println(str.charAt(2));
* a) J  
  b) a  
  c) v  
  d) A

**option - C**

* **Which method is used to compare two strings ignoring case differences?**a) equals()  
  b) compareTo()  
  c) equalsIgnoreCase()  
  d) compareToIgnoreCase()

**option - C**

* **How are strings stored in memory in Java?**a) Heap  
  b) Stack  
  c) Constant Pool  
  d) Both Heap and Constant Pool

**option - D**

* **Which method is used to convert a string to uppercase in Java?**a) toUpperCase()  
  b) upperCase()  
  c) uppercase()  
  d) convertToUpper()

**option - A**

* **Write a Java program to print "Hello, World!" to the console.**

**public class HelloWorld**

**{**

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

**{**

**System.out.println("Hello,World!");**

**}**

**}**

* **Write a Java program to swap two numbers without using a temporary variable.**

**public class SwapWithoutThird**

**{**

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

**{**

**int a = 7, b = 28;**

**System.out.println("Before Swapping : "+a+" "+b);**

**a = a + b;**

**b = a - b;**

**a = a - b;**

**System.out.println("After Swapping : "+a+" "+b);**

**}**

**}**

* **Write a Java program to find the largest of three numbers using if-else statements.**

**import java.util.Scanner;**

**public class Lar3Numbers**

**{**

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

**{**

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

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

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

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

**int firstNumber = sc.nextInt();**

**int secondNumber = sc.nextInt();**

**int thirdNumber = sc.nextInt();**

**if(firstNumber > secondNumber)**

**{**

**System.out.println("First Number is the largest : "+firstNumber);**

**}**

**else if(secondNumber > thirdNumber)**

**{**

**System.out.println("Second number is the largest : "+secondNumber);**

**}**

**else**

**{**

**System.out.println("Third number is the largest : "+thirdNumber);**

**}**

**}**

**}**

* **Write a Java program to check if a number is even or odd.**

**import java.util.Scanner;**

**public class EvenOdd**

**{**

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

**{**

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

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

**int number = sc.nextInt();**

**if(number%2==0)**

**{**

**System.out.println("Given number is Even");**

**}**

**else**

**{**

**System.out.println("Given number is Odd");**

**}**

**}**

**}**

* **Write a Java program to reverse a string.**

**import java.util.Scanner;**

**public class Reverse**

**{**

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

**{**

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

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

**int number = sc.nextInt();**

**int reverse = 0;**

**while(number!=0)**

**{**

**int remainder = number % 10;**

**reverse = reverse\*10+remainder;**

**number = number / 10;**

**}**

**System.out.println("Reverse number is : "+reverse);**

**}**

**}**

* **Write a Java program to check if a given number is a palindrome.**

**import java.util.Scanner;**

**public class Palindrome**

**{**

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

**{**

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

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

**int number = sc.nextInt();**

**int sum = 0;**

**int temp;**

**temp = number;**

**while(number>0)**

**{**

**int remainder = number % 10;**

**sum = sum\*10+remainder;**

**number = number / 10;**

**}**

**if(temp==sum)**

**{**

**System.out.println("Given number is Palindrome");**

**}**

**else**

**{**

**System.out.println("Given number is not Palindrome");**

**}**

**}**

**}**

* **Write a Java program to find the factorial of a number using recursion.**

**public class Factorial {**

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

**long factorial = 1;**

**for (int i = 1; i<= 12; i++) {**

**factorial \*=i;**

**}**

**System.out.println("12=" + factorial);**

**}**

**}**

* **Write a Java program to check if a string is a palindrome.**

**public class Palindrome {**

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

**int num = 6686;**

**int reversed =0;**

**int original = num;**

**while (num != 0) {**

**int digit = num % 10;**

**reversed = reversed \* 10 + digit;**

**num/=10;**

**}**

**if (original == reversed) {**

**System.out.println(original+ "is a palindrome.");**

**}else {**

**System.out.println(original+ "is not a palindrome");**

**}**

**}**

**}**

* **Write a Java program to find the sum of elements in an array.**

**public class SumOfEleArray**

**{**

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

**{**

**int sum = 0;**

**int arr[] = {7,6,28};**

**for(int i=0;i<3;i++)**

**{**

**sum = sum+arr[i];**

**}**

**System.out.println("Sum of Elements in Array : "+sum);**

**}**

**}**

* **Write a Java program to print the Fibonacci series up to n numbers.**

**import java.util.Scanner;**

**public class Fab{**

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

**int a = 0 , b = 1, c;**

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

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

**int number = sc.nextInt();**

**System.out.print("Fibonacci Series upto N : "+ a+" "+b+" ");**

**for(int i=0;i<number-2;i++)**

**{**

**c = a+b;**

**if (c>number) {**

**break;**

**}**

**System.out.print(c+" ");**

**a = b;**

**b = c;**

**}**

**}**

**}**

* **Write a Java program to check if a given number is prime or not.**

**import java.util.\*;**

**public class Prime {**

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

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

**int count=0;**

**System.out.println("Enter a Number");**

**int num=sc.nextInt();**

**if (num<2) {**

**System.out.println("Given number is not Prime");**

**}**

**for (int i = 2; i <=num; i++) {**

**if (num%i==0) {**

**count++;**

**}**

**}**

**if (count==1) {**

**System.out.println("Is Prime");**

**}**

**else{**

**System.out.println("Not Prime");**

**}**

**}**

**}**

* **Write a Java program to remove duplicate elements from an array.**
* **Write a Java program to find the second largest number in an array.**

**import java.util.Arrays;**

**public class Secondd {**

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

**int arr[]={9,8,5,3,1,5,2,11,89,90};**

**Arrays.sort(arr);**

**System.out.println("Second largest element is "+arr[arr.length-2]);**

**}**

**}**

* **Write a Java program to count the number of vowels and consonants in a string.**

**import java.util.Scanner;**

**public class VowelsConsonant**

**{**

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

**{**

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

**System.out.println("Enter a String : ");**

**String str = sc.next();**

**int vowelCount = 0;**

**int consonantCount = 0;**

**for(char ch : str.toLowerCase().toCharArray())**

**{**

**if(ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')**

**{**

**vowelCount++;**

**}**

**else**

**{**

**consonantCount++;**

**}**

**}**

**System.out.println("Number of Vowels in String : "+vowelCount);**

**System.out.println("Number of Consonants in String : "+consonantCount);**

**}**

**}**

* **Write a Java program to sort an array of integers in ascending order.**

**import java.util.Arrays;**

**public class SortArray**

**{**

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

**{**

**int arr[] = {7,6,28,24};**

**System.out.println("Before sorting : "+Arrays.toString(arr));**

**Arrays.sort(arr);**

**System.out.println("Afetr sorting : "+Arrays.toString(arr));**

**}**

**}**