**Core Java Interview Question’s**

1. **What is program?**

A **program** is essentially a set of instructions that a computer executes to perform specific tasks.

1. What is Java and there uses?

Java is a most popular object oriented programming language.

Developers used for developing a code.

Testers used for writing test scenarios.

1. What are the main Java Features?

1) simple

2)object oriented

3)platform independent

4)secured

5)High performance

1. Explain Architecture of Java?

**Java Virtual Machine (JVM)**:

**The heart of Java’s “Write Once, Run Anywhere” (WORA) concept.**

**Java Runtime Environment (JRE):**

**Provides the runtime environment for executing Java applications.**

**Users need JRE to run Java applications on their machines.**

**Java Development Kit (JDK):**

**Contains the Java compiler (javac) to convert source code into bytecode.**

**Developers use JDK to create, compile, and package Java applications.**

1. Why to compile the code, who will compile the code, How to compile the code and what happens during Compilation?

**Compilation** is the process of translating human-readable source code (written in a high-level programming language) into machine-executable code (usually in the form of bytecode or native machine code).

**Compiler will compile the code.**

**What happens during compilation: -**

Syntax checking

Optimization

1. Why to execute the code, who will execute the code, How to execute the code and what happens during execution?

Execute helps to see the behavior of programs.

Who will exeute code:-

Computer will execute code. CPUs fetch, decode, and execute instructions in a sequence known as the **fetch-decode-execute cycle**.

What happens during execution:-

Developer write the code

The compiler will compile the code into system understand language.

1. Does Java Platform Independent?

yes

1. Does JVM is platform independent?

yes

1. What are Data Types (Literals) in Java?

String

Decimal

Float

Int

Boolean

1. What are Variables? How do you declare a variable, how do you Initialize a variable and how you utilize a variable?

Varibles:-

Varibles are used to store the data and also it is act like a reference datatype. It is also indicate memory address location.

Declaration:-

Int x;

Initialization:-

Int x=10;

Utilize avariable:-

Public void main(){

Int x =10;

System.out.println(x);

}

1. Write a program to print Student information which includes name, age, emailed, contact number, by using suitable data types and variables.
2. **package** varibles;
3. **import** javax.print.DocFlavor.STRING;
4. **public** **class** Examples {
6. **public** **static** **void** main(String[] args) {
7. Object[] s = {"prince",40,"prince123@gmail.com",111111111};
8. //Student information which includes name, age, emailed, contact number,
9. **for**(Object st:s) {
10. System.***out***.println(st);
11. }
12. }

1. What is Operators in java? Explain different types of Operators.

Types of operators:-

Arithmetic

Logical

Assignment

Relational operator

Dot operator

Unary operator

1. What are keywords in Java?

New

Extends

Return

Break

Try

For

Throw

Void

While

For

if

1. What are identifiers in java? Explain their rules.

Identifers is used for identification purpose.They represent various progrrame components like

Class name

Method name

Variable name

Package name

1. What are Access Modifiers and different types?

1. What is Scanner class with syntax? What are the methods present in scanner class?

Scanner class is used to get the input from the user.

Syntax:- Scanner s = new Scanner(system.in);

Methods:-

Nextline()

Nextint()

Nextboolean()

1. What are Conditional Statements? Explain the workflow of “if & else”, “if & else if & else” statement and “Switch case” statement.

Conditional statements are used to execute the statements based on given conditions.

If-else:-

First it will check the condition and it satisfied it will execute the statement and not it will execute else part.

if & else if & else:-

it is used for checking the multiple conditions based on given conditions and it satisfy execute those statements otherwise it execute else part.

Switch:-

Instead of writing number of if-else-if statements the switch case is used.it is also used for checking multiple conditions.

1. What is Looping statement in java? And its types with syntaxes.

Looping statements is used for the ittirate the values until the conditions are satisfy.

While:- while(condition){

Ststements

}

Do-while:- do{

Ststements

}

While(condition);

For:- for(int I =0;i<=size;i++){

Statements

}

For-each:- for(Datatype variblename : variablename){

Statements;

}

1. What are user define methods? Explain their Types.

Method contains the group of statements for executing the tasks.

The methods are

Void method:-

Public void main(){

Statements;

}

Returning method :-

Public int main(){

Statements;

}

1. What is Method Overloading and their rules?

Same method name but contains different datatypes and parameters.

Syntax:- void main(string name);

Void main(string name,int i);

1. What is Method Overriding and their rules?

1. Difference between Method Overloading and Method Overriding.
2. Explain following Variables :

* Primitive Variables
* Reference Variables

* Static Variables

The varibles which contain the static keyword.

Syntax:- static int I;

* Instance Variables(Non-Static)

The varibles does not contain static keyword

Syntax:- int I;

* Local Variables

It is declared the inside the method is called local varibles.

1. What is Constructor and its rules? Explain its types?

Constructor is same as the class name. while initialize object only the constructor will call.There is no return type for constructor.

Types:-

Local constructor

Parameters constructor

1. What is Constructor overloading and its rules?

When the two are more constructors are having same name but different parameters.

1. What is call to super() and call to this()? Explain
2. Difference between class and object?
3. What is OOPs in java? explain following terms:

* Inheritance and their types
* Abstraction
* Encapsulation
* Polymorphisms

1. What are Type Casting and Object Casting? Explain their types.
2. What is Array? How do you create an Array, How do you initialize a Array, how you utilize a Array?

Array:- Array are is in fixed size and while declaration of array we mention its size.

Datatype[] variablename = {values};

1. How do you find a length of an Array? And Length of Array starts with?

We have to check by using length and size.

1. What is Exception? Types of Exception. What happens when exception occurs? How do you handle Exception?
2. Difference between Final, Finally and Finalize?
3. What is Concrete Method, Concrete class, abstract method and abstract class.
4. What is interface?
5. Difference between Abstract class and interface?
6. What is String class? What are the methods present in String class?
7. What are the difference ways to create String Object?

String s = new String(“value”);

String t = “chandra”;

1. Explain why String is Immutable with example?

String is immutable because once you stored the value it is not changed.

1. Difference between == and equals().

== checks memory locations, while .equals() checks content

1. What is String buffer and String Builder?
2. Difference between String, String buffer and String Builder.
3. Explain following keywords and how they are working in java:

* Abstract , boolean , break ,byte ,case, catch, char, class, default, do, double, else, extends, final, finally, float, for, if, implements, import, int,interface,long,new,null,package, private, protected, public, return, short, static, super, switch, this, throw, throws, try, void, while .

1. What is Collection?

Collection is used to store and manipulate group of objects.

1. Difference between Array and Collection?
2. What is “List” in collection? Explain following

* Array List
* LinkedList
* Vector

- Stack (extends Vector)

1. Difference between Array and Array List?
2. Difference between Array List and LinkedList?
3. Difference between Array List and Vector?
4. Difference between LinkedList and Vector?
5. Difference between Vector and Stack?
6. What is “Queue” in Collection? Explain following

* Priority Queue

1. What is “Set” in collection? Explain following

* HashSet
* Linked HashSet
* Tree Set

1. Difference between HashSet and Linked HashSet?
2. Difference between HashSet and Tree Set?
3. Difference between Linked HashSet and Tree Set?
4. What is Map? Explain following

(note: Map is not in Collection)

* HashMap
* Linked HashMap
* Tree Map

1. Difference between HashMap and Linked HashMap?
2. Difference between HashMap and Tree Map?
3. Difference between Linked HashMap and Tree Map?

**Coding Questions :**

1. Write a program to check Chiranjeevi is eligible to vote or not.(age – 16)
2. Write a program to print greatest of two numbers 225 and 670.
3. Write a program to check 77 is even number or odd number.
4. Write a program to check whether2024 is a leap year or not.
5. Write a program to check following condition in single program.

* Print Qedge if number is even and between 5-35.
* Print Testing if number is odd and between 5-35.
* Print Qedge and Testing if above two conditions are false.

1. Write a program to print name of a week based on day number which is given below

Day number day name

1 Monday

2 Tuesday

3 Wednesday

4 Thursday

5 Friday

6 Saturday

7 Sunday

Otherwise Invalid day

1. Write a program to take your First name and Last name from user and print them as output?
2. Write a Program to swap two numbers using third variable.
3. Write a Program to swap two numbers without using extra variable.
4. Write a Program to print factorial of numbers by taking number from user.
5. Write a Program to print Fibonacci series.
6. Write a Program to check a number is prime or not.
7. Write a Program to print all the Prime number 1 to 15.
8. Write a program reverse of a number.

Input: 125

Output: 521

1. Write a Program to check weather a number is Palindrome number.
2. Write a Program to check weather a number is Armstrong number.
3. Write a program to print all the Armstrong number from 100 to 1000.
4. Write a program to print all the Palindrome number from 100 to 1000.
5. Write a program to create an integer array of size 5, initialize the value and print the value.
6. Write a program to print maximum and minimum number from on array. {input: 4,6,7,8,45,15,85,12}
7. Write a program to print maximum and 2nd maximum number from on array. {input: 4,6,7,8,45,15,85,12}
8. Write a program to print minimum and 2nd minimum number from on array. {input: 4,6,7,8,45,15,85,12}
9. Write a program to print prime number from an array. {input: 1,2,3,5,6,7,8,11,15}
10. Write a program to print Palindrome number from an array. {input: 121,458,654,858,323,123,963}
11. Write a program to print Armstrong number from an array. {input: 153,146,371,458,407}
12. Write a program to sort the Array in increasing order. Input: 55,25,16,90,71
13. Write a program to sort the Array in decreasing order. Input: 55,25,16,90,71
14. Write a program to delete duplicate values from an array. Input: 1,2,3,5,7,2,5,6
15. Write a program to print missing numbers up to 100 from an array. Input: 1,5,7,22,45,99
16. Write a program to print length of “Java” String.
17. Write a program to print single Character from a String. {Input : TESTING}
18. Write a program to print only Vowels Character from the String {input: Automation Tester}
19. Write a program to print count of words present in a String. {Input: we are testers} {output:4}
20. Write a program to print to reverse of a String. {Input: Qedge Tester} {output: retseT egdeQ}
21. Write to Check Whether the String Palindrome or not. {Input: madam}
22. Write a program to print array from a String by using Split. {input: I am test engineer}
23. Write a program to print reverse words from a String. Input: We are Test Engineers Output: Engineers test are we
24. Write a program to print first and last word from a String. input : We are test engineers from qedge output: we qedge
25. Write a program to print count frequency(repeated word) of word from a given String. Input: We are Test Engineers We are Test Engineers Check Word: Test output: 2
26. Write a program to print longest word from a string. Input: I am going to home output: going
27. Write a program to print smallest word from a string. Input: I am going to home output: T
28. Write a program to delete duplicate words from the given String. input: We are testers are We are testers output: We are testers
29. Write a program to convert String to char.
30. Write a program to delete duplicate char from the given string. Input: manual testing output: manul Testing
31. Write a program to count frequency(repeated char) of each character. Input: test engineer output: t-2, e-4,s-2,n-2,g-1,i-1,r-1
32. Write a program to print length of a string without using length().
33. Write a program to create a 2D array of 3 rows and 3 columns and print them in matrix format.