

**Here are top 100 core java practical questions mostly asked in interview.**

### **Conditional Statements**

1. Write a program to check if a number is positive, negative, or zero.
2. Write a program to find the largest of three numbers.
3. Write a program to check if a number is even or odd.
4. Write a program to check if a character is a vowel or consonant.
5. Write a program to check if a year is a leap year or not.
6. Write a program to check if a number is prime.
7. Write a program to find the greatest of three numbers using the ternary operator.
8. Write a program to check if a number is a palindrome.
9. Write a program to check if a string is a palindrome.
10. Write a program to print the day of the week based on a number (1-7).

### **Patterns**

11. Write a program to print a pyramid pattern.
12. Write a program to print a reverse pyramid pattern.
13. Write a program to print a right-angled triangle pattern.
14. Write a program to print an inverted right-angled triangle pattern.
15. Write a program to print a diamond pattern.
16. Write a program to print a hollow square pattern.
17. Write a program to print a hollow triangle pattern.
18. Write a program to print a Pascal's triangle.
19. Write a program to print a Floyd's triangle.
20. Write a program to print a butterfly pattern.

### **Series**

21. Write a program to print the Fibonacci series up to a given number.
22. Write a program to print the factorial of a number.
23. Write a program to print the sum of the first n natural numbers.
24. Write a program to print the sum of the first n odd numbers.
25. Write a program to print the sum of the first n even numbers.
26. Write a program to print the prime numbers in a given range.
27. Write a program to print the sum of digits of a number.
28. Write a program to print the Armstrong numbers in a given range.
29. Write a program to print the perfect numbers in a given range.
30. Write a program to print the sum of the series  $1 - 2 + 3 - 4 + \dots + n$ .

### **Combination of Patterns/Series/OOP Concepts**

31. Write a program to print a pyramid pattern of prime numbers.
32. Write a program to print a right-angled triangle pattern of Fibonacci numbers.
33. Write a program to print the factorial of each number in a given range using recursion.
34. Write a program to check if a given number is a palindrome using a method.
35. Write a program to print a diamond pattern using the sum of digits of numbers.
36. Write a program to print a pattern of Armstrong numbers.
37. Write a program to print a combination of Pascal's triangle and prime numbers.
38. Write a program to print the sum of the first n prime numbers using a method.
39. Write a program to print the sum of the series  $1 - 2 + 3 - 4 + \dots + n$  using a method.
40. Write a program to print the factorial of numbers in a pattern.

### **this Keyword**

41. Write a program to demonstrate the use of the this keyword in constructors.

42. Write a program to demonstrate the use of the this keyword to refer to instance variables.
43. Write a program to demonstrate the use of the this keyword to invoke current class methods.
44. Write a program to demonstrate the use of the this keyword to return the current class instance.
45. Write a program to demonstrate the use of the this keyword in method chaining.
46. Write a program to demonstrate the use of the this keyword to invoke a constructor.
47. Write a program to demonstrate the use of the this keyword to pass an argument in the constructor call.
48. Write a program to demonstrate the use of the this keyword to resolve shadowing problem.
49. Write a program to demonstrate the use of the this keyword in setter methods.
50. Write a program to demonstrate the use of the this keyword to access class members.

#### **super Keyword**

51. Write a program to demonstrate the use of the super keyword to access superclass variables.
52. Write a program to demonstrate the use of the super keyword to invoke superclass methods.
53. Write a program to demonstrate the use of the super keyword to invoke superclass constructors.
54. Write a program to demonstrate the use of the super keyword to access superclass methods in a method overriding scenario.
55. Write a program to demonstrate the use of the super keyword in constructor chaining.
56. Write a program to demonstrate the use of the super keyword to call superclass static methods.
57. Write a program to demonstrate the use of the super keyword in an inheritance hierarchy with multiple levels.
58. Write a program to demonstrate the use of the super keyword to access superclass fields when they are shadowed by subclass fields.
59. Write a program to demonstrate the use of the super keyword in the context of a superclass reference.
60. Write a program to demonstrate the use of the super keyword in method overriding with return types.

#### **final Keyword**

61. Write a program to demonstrate the use of the final keyword with variables.
62. Write a program to demonstrate the use of the final keyword with methods.
63. Write a program to demonstrate the use of the final keyword with classes.
64. Write a program to demonstrate the use of the final keyword to create immutable objects.
65. Write a program to demonstrate the use of the final keyword in method parameters.
66. Write a program to demonstrate the use of the final keyword with static variables.
67. Write a program to demonstrate the use of the final keyword with instance variables.
68. Write a program to demonstrate the use of the final keyword in nested classes.
69. Write a program to demonstrate the use of the final keyword in anonymous classes.
70. Write a program to demonstrate the use of the final keyword with local variables in a method.

#### **Methods**

71. Write a program to demonstrate method overloading.
72. Write a program to demonstrate method overriding.
73. Write a program to demonstrate the use of static methods.
74. Write a program to demonstrate the use of instance methods.
75. Write a program to demonstrate the use of recursive methods.
76. Write a program to demonstrate the use of the main method.
77. Write a program to demonstrate the use of the valueOf method in the String class.
78. Write a program to demonstrate the use of the compareTo method in the String class.
79. Write a program to demonstrate the use of the substring method in the String class.
80. Write a program to demonstrate the use of the length method in the String class.

#### **Miscellaneous**

81. Write a program to demonstrate the use of the Math class methods.
82. Write a program to demonstrate the use of the Arrays class methods.
83. Write a program to demonstrate the use of the StringBuilder class methods.
84. Write a program to demonstrate the use of the StringBuffer class methods.
85. Write a program to demonstrate the use of the Scanner class methods.
86. Write a program to demonstrate the use of the Random class methods.
87. Write a program to demonstrate the use of the System class methods.
88. Write a program to demonstrate the use of the Locale class methods.
89. Write a program to demonstrate the use of the Date class methods.
90. Write a program to demonstrate the use of the Calendar class methods.

#### **Advanced**

91. Write a program to demonstrate the use of nested loops.
92. Write a program to demonstrate the use of the switch statement.
93. Write a program to demonstrate the use of labeled break and continue.
94. Write a program to demonstrate the use of exception handling using try, catch, finally.
95. Write a program to demonstrate the use of custom exceptions.
96. Write a program to demonstrate the use of assert statement.
97. Write a program to demonstrate file reading and writing using FileReader and FileWriter.
98. Write a program to demonstrate file reading and writing using BufferedReader and BufferedWriter.
99. Write a program to demonstrate reading and writing binary data using FileInputStream and FileOutputStream.
100. Write a program to demonstrate reading and writing objects using ObjectInputStream and ObjectOutputStream.

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