Java programming fundamentals

1. Guessing game which involves a game object and 3 player objects. The game generates a random number between 0 and 9 and the 3 player objects try to guess it.

2. Create your own calendar class and perform various operations on it with

3. Create a box class having instance variables width and height and having various instance methods with and without arguments and performing various operations on it. It must have default and parameterized constructors too. Use this variable in the constructors and perform garbage collection using finalize() method.

4. Stack operations using class, objects, instance variables, constructors, garbage collector and super keyword.

5. Create class Student (roll number, name, number of subjects, marks of each subject).No. of subjects varies for each student. Write a parameterized constructor which initializes roll number, name, number of subjects and create the array of marks dynamically. Display details of all students with percentage and class obtained. Use inner class too.

6. Using class implement HASHTable to:

- ✓ **Accept records of n students(name, percentage).**
- ✓ **Display details of all students. Find out highest marks**

7. Demonstration of Java Program with logical operators, shorthand assignment operators, condition operators, bitwise operators.

8. Java program with use of type casting.
9. Accept the number from command line and calculate sum of digits.
10. Java program to illustrate the various scopes of variables: static scope, block scope, method local scope, instance scope.
11. Demonstrate how one class can be defined in another class.
12. Copying of one array into another, sort list of numbers.
13. Program to illustrate concatenation of 2 strings and usage of various string methods and alphabetic ordering of strings.
14. Demonstration of comparison between equals() and ==.
15. Demonstrate manipulation of Strings using StringBuffer and StringBuilder classes.
16. Demonstration of replace() method from StringBuffer which is used to replace full string.
17. Take 2 String inputs from user. Convert String 1 in upper and String 2 in lowercase. Concatenate both strings and display results.
18. Pascal Triangle using array.
19. Java Program that inputs a person's name in form of First Middle Last, and then prints it in form Last First M., where "M" is person's middle initial.
20. Perform operations on matrix.
21. Accept 2 strings as command line arguments. Check if 2nd string is substring of 1st string.
22. Convert string into decimal, binary and hexadecimal.
23. Demonstration of randomly automated decision maker using Random Class.
24. Find square root of number from Math Class.