Data type,operators and control structures.

1. Write a program that asks three integer from users and print the greatest one.
2. Write a program to print the following patterns:

i.
```
1
12
123
1234
12345
```

ii.
```
*****
****
***
**
*
```

3. Write a program to show the use of left shift and right shift operator.
4. Write a program to check whether the given number is prime or not.
5. Write a program in java to show:
    i. addition of two matrices
    ii. transpose of a matrix.

6.Write a java program to check whether the given number is palindrome or not.
7. Write a program in java to convert decimal number to binary and binary to decimal.
8. Write a program in java to show the foreach version of for loop to iterate through array.
9. Write a program to show the concept of break,continue and return .(you can write a program done in C programming lab).
10. Create an array to hold 10 numbers. Print all of the numbers in the array in ascending order.

Classes and objects (instance members)

1. Write a program that creates a class MyPoint which contains data members x and y(double type) to represent x-coordinate and y-coordinate . Create two instances of MyPoint class and show the distance between those point objects.
2. Create a class Currency with member variable Rs and Paisa(int). Create two object of currency and store their sum in another currency object. The addition of currency should be done is such a way that if paisa>99 rupees should be incremented by 1 and paisa should be decremented by 100.
3.Write a program to demonstrate method overloading and constructor overloading.
4. Create a class Point with member method distanceTo(Point p2) which returns the distance between current object and method parameter p2 and another member method getMidPoint(Point p1,Point p2) which returns Point object containing mid point between p1 and p2. Also include x and y as member variables. Create two instances P1 and P2 and show distance between them calling the method distanceTo(). Similarly create third instance P3 which represents the mid_point between them.

Recursion and static member

1. Write a program to calculate x*n using only addition(recursive program).

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2. Write a program to calculate x^n using multiplication operation only.The method should be recursive.
3. Write a program to get the factorial of a given number.
4. Write a program that counts the number of objects created.(hint: use static)

Inheritance, abstract class and interface

1. Create a base class complex with member variables real and imaginary with constructor to initialize values of real and imaginary. Also include the member method called display to display the values of complex number. Then create a child class complex1 with member variables real and imaginary and member method add which adds it's real with parents real and it's imaginary with parents imaginary and return the result as a complex type. Also include constructor that initializes it's member variable values.
Create an object of complex1 and call the add method on behalf of it to print the result.

2. Create an abstract class Shape with abstract method double getArea(). Create child classes Rectangle, Square and Circle which extends Shape class where:
i) class Square has member variable double length and overridden method double getArea() which returns area of Square object.
ii)class Rectangle has member variables double length and double breadth and an overridden method double getArea() which returns area of Rectangle object.
iii)class Circle has member variable double radius and overridden method double getArea() which returns area of Circle object.[hint: you can use constructor in child classes to initialize their variables.)

Create an array of type Shape to hold 10 objects(e.g Shape s[]=new Shape[10]) which holds different types of objects like rectangle object, square object or circle object. Finally print the areas of the objects present in the Shape array.

3. Write a program to show the multiple inheritance in java.

Exception handling,enum and wrapper class.

1. Write a program in java to handle the divide by zero exception.
2.Write a program to show the difference between throw and throws keyword.
3. Write a program to demonstrate the exceptional handling for ArrayIndexOutOfBounds and NullPointerException in java.
4. Create your own exception class and use it in a java program.
5. Write a program to demonstrate the use of enum in your program.
6. Write a program in java to show boxing and unboxing in java.

String and threads:

1.Write a program to create string array of size 'n' and prompt the user to enter 10 names in it. Then you are required to replace all 'i' with '!' and display the result.
2. Define an array of size 10 and store 10 countries' name in it. Then list the names of countries that starts and ends with letter 'a'.

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3. Write a program to sort the strings in the given array and print them: String namelist[]={“kamal”,”Indra”,”tek”,”Prashant”,”Pramod”,”Praveen”} ignore case sensitivity while comparing.
4. Write a program to print the last 10 digit phone no from given array(remove country code and other symbols):
String phonelist[]={“9841555555”,”97719849333333”,”+977-9818777777”,”+9771- 9803000000”}
5. Create two classes ThreadA and ThreadB by implementing the runnable interface. ThreadA displays all even numbers from 50 to 100 and ThreadB displays all odd numbers from 100 to 200. Define a main class which creates the objects of both the classes and displays the numbers as per the above mentioned specifications.
6.Write a program to demonstrate the concept of thread synchronization

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