

1)ZERO CONVERTER

```
import java.util.Scanner;

public class ZeroConverter {

    static void neg(int n) {

        for (int i = n; i <= 0; i++) {

            System.out.print(i + " ");

        }

        System.out.println();

    }

    static void pos(int n) {

        for (int i = n-1; i >= 0; i--) {

            System.out.print(i + " ");

        }

        System.out.println();

    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.print("Enter the number of test cases: ");

        int t = sc.nextInt();

        for (int i = 0; i < t; i++) {

            System.out.print("Enter the value of n for test case " + (i + 1) + ": ");

            int n = sc.nextInt()

            if (n == 0) {

                System.out.println("already Zero");

            } else if (n > 0) {
```

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        pos(n);
    } else {
        neg(n);
    }
}
}
}

```

2)

```

import java.util.Scanner;

public class ATMProgram {

    static final int INITIAL_PIN = 1234;

    static int balance = 0;

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        int pin;

        int choice;

        System.out.print("Enter PIN: ");

        pin = scanner.nextInt();

        if (pin == INITIAL_PIN) {

            do {

                displayMenu();

                System.out.print("Enter your choice (1-5): ");

                choice = scanner.nextInt();

```

```
switch (choice) {  
  
    case 1:  
  
        System.out.print("Enter amount to deposit: ");  
  
        int depositAmount = scanner.nextInt();  
  
        balance = deposit(depositAmount);  
  
        System.out.println("Transaction(1) : input: " + depositAmount + " output: " + balance);  
  
        break;  
  
    case 2:  
  
        System.out.print("Enter amount to withdraw: ");  
  
        int withdrawAmount = scanner.nextInt();  
  
        balance = withdraw(withdrawAmount);  
  
        System.out.println("Transaction(2) : input: " + withdrawAmount + " output: " + balance);  
  
        break;  
  
    case 3:  
  
        System.out.println("Balance Enquiry: " + checkBalance());  
  
        break;  
  
    case 4:  
  
        System.out.print("Enter new PIN: ");  
  
        int newPin = scanner.nextInt();  
  
        changePin(newPin);  
  
        System.out.println("PIN Change");  
  
        break;  
  
    case 5:  
  
        System.out.println("Exiting the program. Thank you!");  
  
        break;
```

```
        default:

            System.out.println("Invalid choice. Please enter a number between 1 and 5.");

        }

    } while (choice != 5);

} else {

    System.out.println("Invalid PIN. Exiting the program.");

}

scanner.close();

}

static int deposit(int amount) {

    balance += amount;

    return balance;

}

static int withdraw(int amount) {

    if (amount <= balance) {

        balance -= amount;

    } else {

        System.out.println("Insufficient funds!");

    }

    return balance;

}

static int checkBalance() {

    return balance;

}

static void changePin(int newPin) {
```

```

    }

    static void displayMenu() {

        System.out.println("\nATM Menu:");

        System.out.println("1. Deposit");

        System.out.println("2. Withdraw");

        System.out.println("3. Balance Enquiry");

        System.out.println("4. PIN Change");

        System.out.println("5. Exit");

    }

}

```

3)

```

import java.util.Scanner;

public class SumPrimeChecker {

    static boolean isPrime(int num) {

        if (num <= 1) {

            return false;

        }

        for (int i = 2; i <= Math.sqrt(num); i++) {

            if (num % i == 0) {

                return false;

            }

        }

        return true;

    }

    static boolean isSumPrime(int a, int b) {

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        int sum = a + b;

        return isPrime(sum);
    }

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter the value of a: ");

        int a = scanner.nextInt();

        System.out.print("Enter the value of b: ");

        int b = scanner.nextInt();

        boolean isAPrime = isPrime(a);

        boolean isBPrime = isPrime(b);

        if (isAPrime && isBPrime) {

            boolean isSumPrime = isSumPrime(a, b);

            System.out.println("SumPrime(" + a + ", " + b + ") -> " + isSumPrime);

        } else {

            System.out.println("Both a and b should be prime for the sum to be considered prime.");

        }

        scanner.close();

    }

}

```

4)

```

public class StringTimes {

    static String stringTimes(String str, int n) {

        StringBuilder result = new StringBuilder();
    }
}

```

```

        for (int i = 0; i < n; i++) {
            result.append(str);
        }

        return result.toString();
    }

    public static void main(String[] args) {

        System.out.println(stringTimes("Hi", 2));

        System.out.println(stringTimes("Hi", 3));

        System.out.println(stringTimes("Hi", 1));

    }
}

```

5)

```

import java.util.Scanner;

public class SeriesGenerator {

    static void generateSeries(int a, int b, int n) {

        int result = a;

        for (int i = 0; i < n; i++) {

            result += Math.pow(2, i) * b;

            System.out.print(result + " ");

        }

        System.out.println();

    }

    public static void main(String[] args) {

```

```
Scanner scanner = new Scanner(System.in);

System.out.print("Enter the number of queries (q): ");

int q = scanner.nextInt();

for (int i = 0; i < q; i++) {

    System.out.print("Enter values for query " + (i + 1) + " (a b n): ");

    int a = scanner.nextInt();

    int b = scanner.nextInt();

    int n = scanner.nextInt();

    generateSeries(a, b, n);

}

scanner.close();

}

}
```