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Java Assignment

1. Write a program to print all natural numbers in reverse.

```java
import java.util.Scanner;
class NaturalNoReverse {
    public static void main(String[] args) {

      Scanner sc = new Scanner(System.in);
            System.out.println("Enter the first and last number: ");
            int first = sc.nextInt();
            int last = sc.nextInt();

            for(int i = last; i >= first; i--) {
                System.out.println(i);
            }

            sc.close();

    }
}
```

2. Write a program to print multiplication table of a number.

```java
import java.util.Scanner;
class MultiplicationTable {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter a number : ");
        int num = scanner.nextInt();
        for(int i = 1; i <= 10; i++) {
            System.out.println(num + " x " + i + " = " + num*i);
        }
        scanner.close();
    }
}
```

3. Write a program to print all alphabets from a to z.

```java
class AllAlphabets {
    public static void main(String[] args) {
        for(char c = 'a'; c <= 'z'; c++) {
            System.out.print(c + " ");
        }
    }
}
```

4. Write a program to print reverse alphabets from Z to A.

```java
class ReverseAlphabet {
    public static void main(String[] args) {
        for(char c = 'z'; c >= 'a'; c--) {
            String upperCaseCh = String.valueOf(c).toUpperCase();
            System.out.print(upperCaseCh + " ");
        }
    }
}
```

5. Write a program to print all even numbers between 1 to 50.

```java
// Source code is decompiled from a .class file using FernFlower decompiler.
import java.util.Scanner;

class EvenNumber {
    EvenNumber() {
    }

    public static void main(String[] var0) {
        Scanner var1 = new Scanner(System.in);
        System.out.println("Enter the first and last number: ");
        int var2 = var1.nextInt();
        int var3 = var1.nextInt();

        for(int var4 = var2; var4 <= var3; ++var4) {
            if (var4 % 2 == 0) {
                System.out.println(var4);
            }
        }

        var1.close();
    }
}
```

6. Write a program to print sum of odd numbers between 1 to 50.

```java
import java.util.Scanner;
class SumOddNumbers {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter the first and last number: ");
        int first = scanner.nextInt();
        int last = scanner.nextInt();
        int sum = 0;
        for(int i = first; i <= last; i++) {
            if(i % 2 != 0) {
                sum += i;
            }
            System.out.println("Sum of odd numbers between " + first + " and " +
last + " is " + sum);
        }
        scanner.close();
    }
}
```

7. Write a program to read a weekday number and print weekday name using switch statement.

```java
import java.util.Scanner;
class WeeklyNoSwitch {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the day number: ");
        int day = sc.nextInt();
        switch (day) {
            case 1:
                System.out.println("Monday");
                break;
            case 2:
                System.out.println("Tuesday");
                break;
            case 3:
                System.out.println("Wednesday");
                break;
            case 4:
                System.out.println("Thursday");
                break;
            case 5:
                System.out.println("Friday");
                break;
            case 6:
```

```java
                System.out.println("Saturday");
                break;
            case 7:
                System.out.println("Sunday");
                break;
            default:
                System.out.println("Invalid day");
                break;
        }
    sc.close();
    }

}
```

8. Write a program to Check whether a character is a vowel or consonant using switch statement.

```java
import java.util.Scanner;
class VowelOrConsonant {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a character: ");
        char ch = sc.next().charAt(0);
        ch = Character.toLowerCase(ch);
        switch (ch) {
            case 'a':
            case 'e':
            case 'i':
            case 'o':
            case 'u':
                System.out.println("Vowel");
                break;
            default:
                System.out.println("Consonant");
                break;
        }

        sc.close();
    }
}
```

9. Write a program to reverse the digits of a given integer number.

```java
import java.util.Scanner;
```

```java
class ReverseIntegerNo {
   public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter a number: ");
    int num = sc.nextInt();
    int reversed = 0;
    int rev = 0;
    while(num != 0) {
        int digit = num % 10;
        reversed = reversed * 10 + digit;
        num /= 10;
        rev= reversed;
    }
    System.out.println("Reversed Number: " + rev);
    sc.close();
   }
}
```

10. Write a program to find sum of digits of a number.

```java
import java.util.Scanner;
class SumIntegerNo {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number: ");
        long num = sc.nextLong();
        long sum = 0;
        long totalsum = 0;
        while(num != 0) {
            long digit = num % 10;
            sum = sum + digit;
            num /= 10;
            totalsum = sum;
        }
        System.out.println("Sum of the digits: " + totalsum);
        sc.close();
    }

}
```

11. WAP to check whether the inputted number is Armstrong Number or not.

```java
import java.util.Scanner;
```

```java
class Armstrong {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter a number: ");
        int num = sc.nextInt();
        int originalNum, remainder, result = 0;
        originalNum = num;
        while (originalNum != 0) {
            remainder = originalNum % 10;
            result += Math.pow(remainder, 3);
            originalNum /= 10;
        }
        if (result == num)
            System.out.println(num + " is an Armstrong number.");
        else
            System.out.println(num + " is not an Armstrong number.");
        sc.close();
    }

}
```

12. Write a Java program to check if a given number is a prime number.

```java
import java.util.Scanner;
class PrimeNo {
    public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter a number:");
    int num = sc.nextInt();
    boolean flag = false;
    for(int i = 2; i <= num/2; ++i){
        if(num % i == 0){
            flag = true;
            break;
        }
        }
        if(flag == true)
            System.out.println(num + " is not a prime number.");
        else
            System.out.println(num + " is a prime number.");
    sc.close();

    }
}
```

13. Write a menu based Java program for performing different arithmetic operations.

```java
import java.util.Scanner;
class ArithmeticOperations {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter two numbers: ");
        int num1 = sc.nextInt();
        int num2 = sc.nextInt();
        System.out.println("Enter operation to perform (1 for Sum, 2 for
Difference, 3 for Multiplication, 4 for Division, 5 for Modulus, q to quit): ");
        String choice = sc.next();
        first: do {
          second :
          System.out.println("Do you want to continue? (yes/no): ");
            choice = sc.next();
            if (choice.equals("no")) {
                break first;
            }
            System.out.println("Enter operation to perform (1 for Sum, 2 for
Difference, 3 for Multiplication, 4 for Division, 5 for Modulus, q to quit): ");
            String operation = sc.next();
            third: switch (operation) {
                case "1":
                    int sum = num1 + num2;
                    System.out.println("Sum: " + sum);

                    break third;
                case "2":
                    int diff = num1 - num2;
                    System.out.println("Difference: " + diff);
                    break;
                case "3":
                    int mul = num1 * num2;
                    System.out.println("Multiplication: " + mul);
                    break third;
                case "4":
                    if (num2 != 0) {
                        int div = num1 / num2;
                        System.out.println("Division: " + div);
                    } else {
                        System.out.println("Cannot divide by zero.");
                    }
                    break third;
                case "5":
                    int mod = num1 % num2;
                    System.out.println("Modulus: " + mod);
                    break;
```

```
                case "q":
                case "quit":
                    choice = "no";
                    break first;
                default:
                    System.out.println("Invalid operation. Please try again.");
            }
            if (!operation.equals("q") && !operation.equals("quit")) {
                System.out.println("Do you want to continue? (yes/no): ");
                choice = sc.next();
            }
        } while (choice.equals("yes"));


        sc.close();
        }



}
```

14.WAP to find average of consecutive N Odd numbers and even numbers.

```
import java.util.Scanner;
class SumConNumber {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter the value of n: ");
        int n = sc.nextInt();
        int oddSum = 0;
        int evenSum = 0;
        int oddCount = 0;
        int evenCount = 0;
        int i = 1;
        while(oddCount < n || evenCount < n) {
            if(i % 2 != 0) {
                oddSum += i;
                oddCount++;
            } else {
                evenSum += i;
                evenCount++;
            }
            i++;
        }
        System.out.println("Average of first " + n + " odd numbers: " + (oddSum /
n));
        System.out.println("Average of first " + n + " even numbers: " + (evenSum /
n));
```

```
        sc.close();
    }



}
```