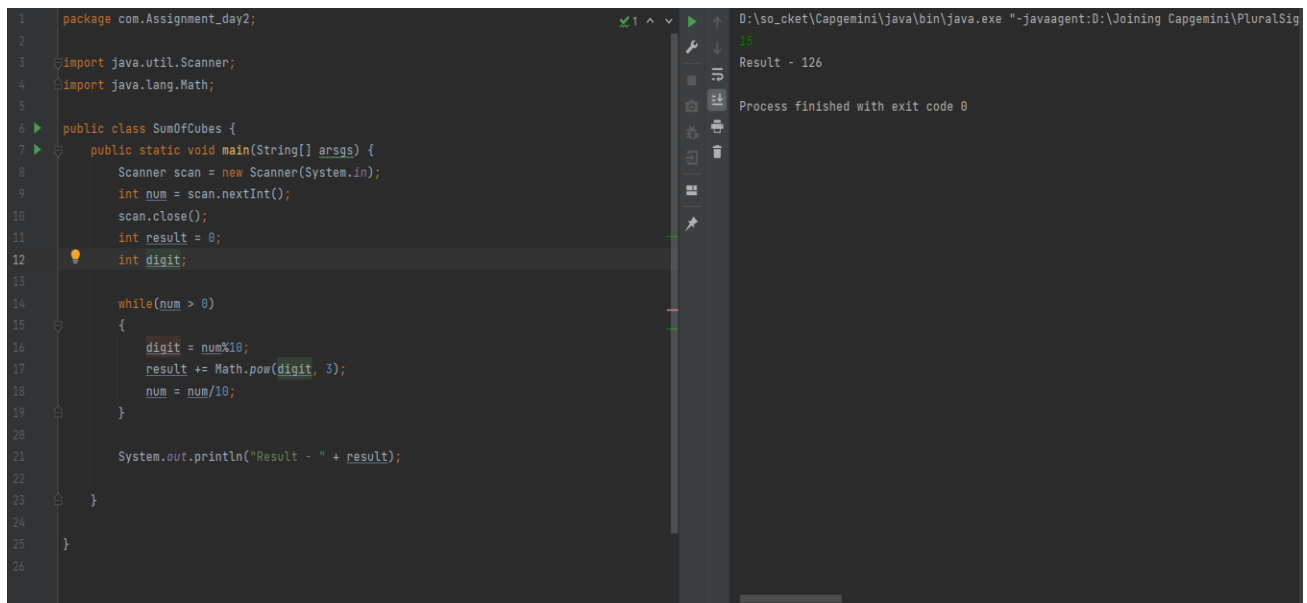


Day 2 – Assignment

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10 – 09 – 2022

Q1 : Create a method to find the sum of the cubes of the digits of an n digit number

Solution –



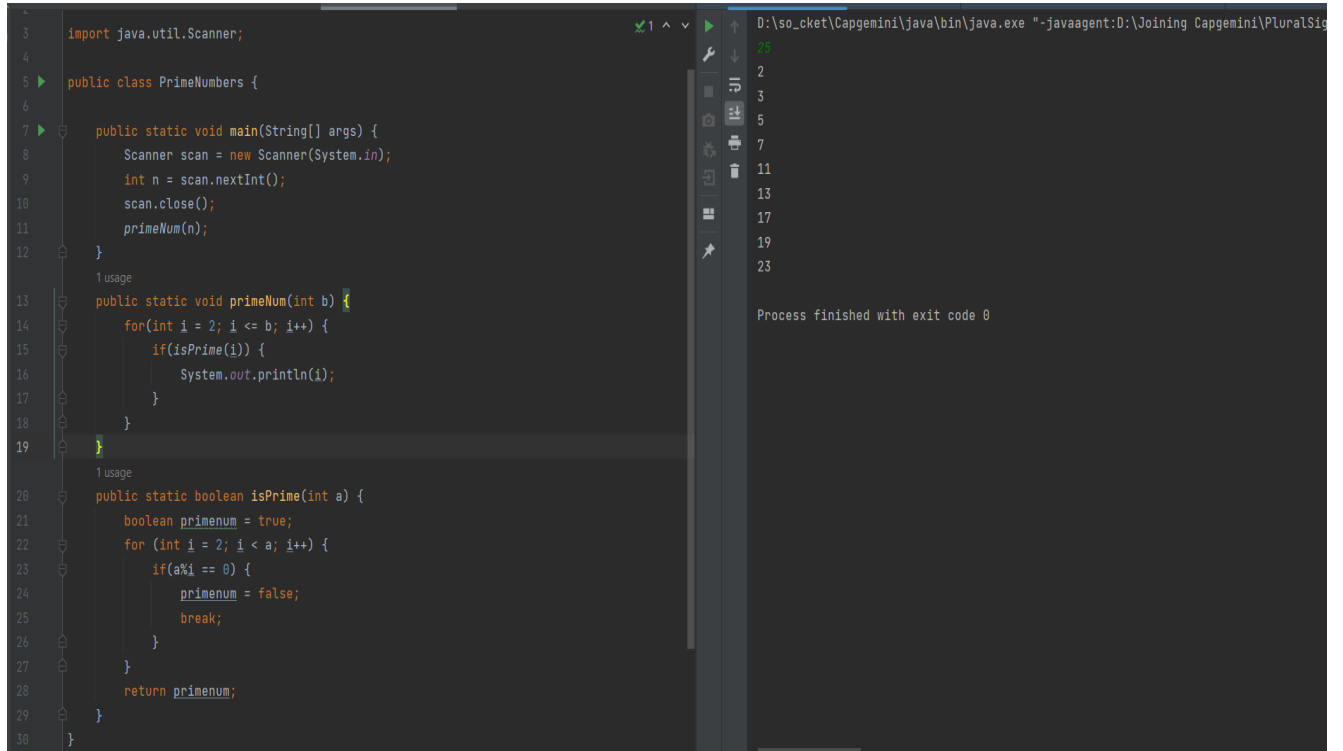
```
1 package com.Assignment_day2;
2
3 import java.util.Scanner;
4 import java.lang.Math;
5
6 public class SumOfCubes {
7     public static void main(String[] args) {
8         Scanner scan = new Scanner(System.in);
9         int num = scan.nextInt();
10        scan.close();
11        int result = 0;
12        int digit;
13
14        while(num > 0)
15        {
16            digit = num%10;
17            result += Math.pow(digit, 3);
18            num = num/10;
19        }
20
21        System.out.println("Result - " + result);
22    }
23 }
24
25
26
```

Output: Result - 126

Process finished with exit code 0

Q2: Write a program that should ask a number from user. You need to display all the prime numbers till that number. For exam: 25

Solution –



```
3 import java.util.Scanner;
4
5 public class PrimeNumbers {
6
7     public static void main(String[] args) {
8         Scanner scan = new Scanner(System.in);
9         int n = scan.nextInt();
10        scan.close();
11        primeNum(n);
12    }
13
14    public static void primeNum(int b) {
15        for(int i = 2; i <= b; i++) {
16            if(isPrime(i)) {
17                System.out.println(i);
18            }
19        }
20    }
21
22    public static boolean isPrime(int a) {
23        boolean primenum = true;
24        for (int i = 2; i < a; i++) {
25            if(a%i == 0) {
26                primenum = false;
27                break;
28            }
29        }
30        return primenum;
31    }
32 }
```

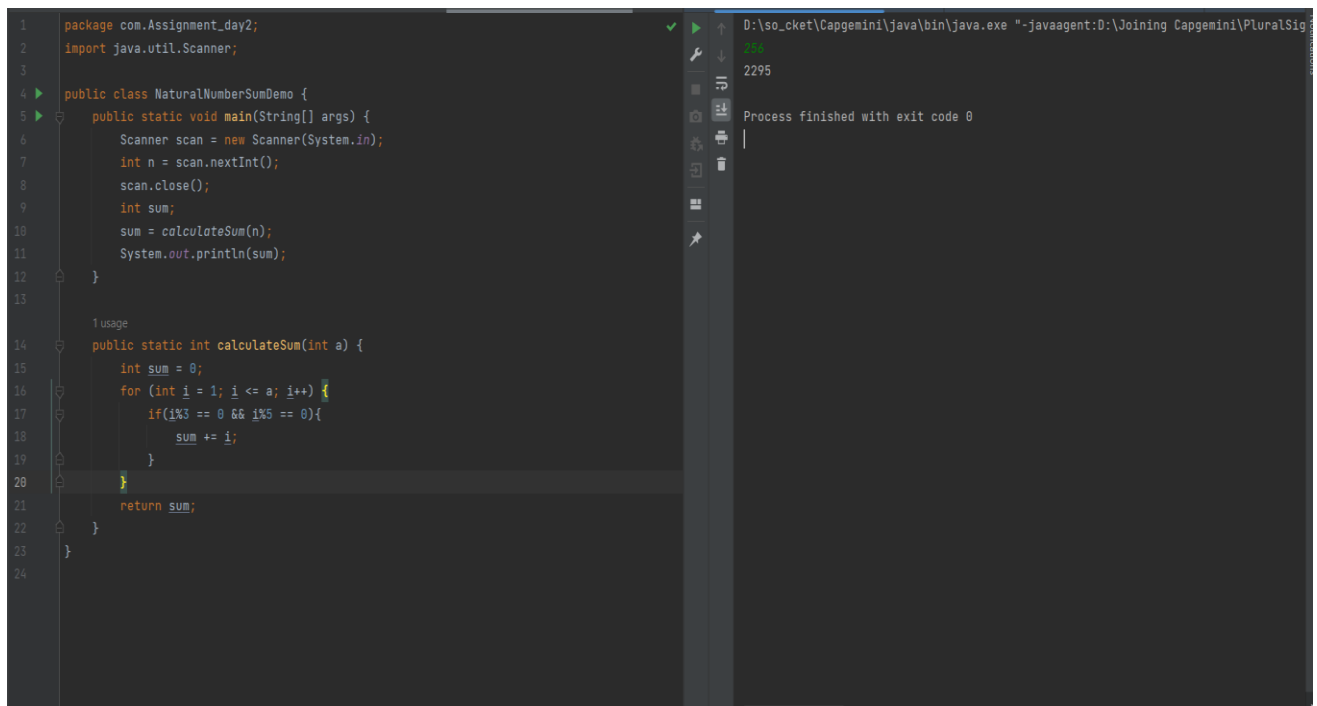
Process finished with exit code 0

Q3: Create a class NaturalNumberSumDemo, Here you need to calculate the sum of first n natural numbers which are divisible by 3 and 5. Follow below table:

ClassName	NaturalNumberSumDemo
Helper Method	calculateSum
Name Method Description	To find the sum first n natural number divisible by 3 and 5
Argument	int number
Return type	Int
Logic	Calculate the sum of first n natural numbers divisible by 3 and 5

Solution –

Logic I used here is - To find the sum first n natural number divisible by 3 and 5



```
1 package com.Assignment_day2;
2 import java.util.Scanner;
3
4 public class NaturalNumberSumDemo {
5     public static void main(String[] args) {
6         Scanner scan = new Scanner(System.in);
7         int n = scan.nextInt();
8         scan.close();
9         int sum;
10        sum = calculateSum(n);
11        System.out.println(sum);
12    }
13
14    1 usage
15    public static int calculateSum(int a) {
16        int sum = 0;
17        for (int i = 1; i <= a; i++) {
18            if (i % 3 == 0 && i % 5 == 0) {
19                sum += i;
20            }
21        }
22        return sum;
23    }
24 }
```

Output: 2295

Process finished with exit code 0

Q4: Imagine that you are working on a library management app. In this app, members can get the books issued. We have a data of books which are issued by members. Your job is to find out the average number of books that are issued in a month by library members.

Follow the below instructions to attempt this exercise.

1. Create a Person class
2. Keep id, name, books_issued fields in Person class.
3. Create a parameterized constructor in Person class, and you must have getters for all fields.
4. Create a LibraryDemo class with main method
5. Use below table for further reference.
6. Make sure to use modular approach.

Persons data	<pre>Person[] persons=new Person[]{ new Person(101,"pankaj",3), new Person(102,"vikas",2), new Person(103,"vineet",3), new Person(104,"akash",1), new Person(105,"shalini",0), new Person(106,"shikha",1), new Person(108,"prateek",3) };</pre>
Get only books_issued number	<pre>private int[] getBooksIssued(Person[] persons){ //TODO: Write your logic here }</pre>
Find the average books issued by all members	<pre>private int findAvgBookIssued(int[] books_issued){ //TODO: Write your logic here }</pre>

Solution –

```
5 public class Person {
6     int id;
7     String name;
8     int books_issued;
9
10    Person(int id, String name, int books_issued) {
11        this.id = id;
12        this.name = name;
13        this.books_issued = books_issued;
14    }
15
16    public int getBooks_issued() {
17        return books_issued;
18    }
19
20 }
21
22 class LibraryDemo {
23     private int[] getBooksIssued(Person[] persons) {
24         int [] booksIssuedArray = new int[persons.length];
25         for (int i = 0; i < persons.length; i++) {
26             booksIssuedArray[i] = persons[i].getBooks_issued();
27         }
28         return booksIssuedArray;
29     }
}
```

D:\soCKET\Capgemini\java\bin\java.exe "-javaagent:D:\Joining Capgemini\PluralSig
Average number of books: 2
Process finished with exit code 0

```
1 private int findAvgBookIssued(int[] books_issued){
2     int sum = 0;
3     for (int j : books_issued) {
4         sum += j;
5     }
6     return Math.round(((float)sum/books_issued.length));
7 }
8 public static void main(String[] args){
9
10    Person[] persons = new Person[]{ new Person( id:101, name: "pankaj", books_issued: 3)
11        new Person( id: 102, name: "vikas", books_issued: 2),
12        new Person( id: 103, name: "vineet", books_issued: 3),
13        new Person( id: 104, name: "akash", books_issued: 1),
14        new Person( id: 105, name: "shalini", books_issued: 0),
15        new Person( id: 106, name: "shikha", books_issued: 1),
16        new Person( id: 108, name: "prateek", books_issued: 3)
17    };
18    LibraryDemo lib = new LibraryDemo();
19    int[] books = lib.getBooksIssued(persons);
20    int avgBooks = lib.findAvgBookIssued(books);
21
22    System.out.println("Average number of books: " + avgBooks);
23 }
24 }
```

D:\soCKET\Capgemini\java\bin\java.exe "-javaagent:D:\Joining Capgemini\PluralSig
Average number of books: 2
Process finished with exit code 0