1) Code for Menu Driven Simple Calculator :

```java
import java.io.*;

class SimpleCalculator{

 public static void addNumbers(int a, int b){
  System.out.println(a+" + "+b+" = "+(a+b));
 }

 public static void substractNumbers(int a, int b){
  System.out.println(a+" - "+b+" = "+(a-b));
 }

 public static void multiplyNumbers(int a, int b){
  System.out.println(a+" * "+b+" = "+(a*b));
 }

 public static void divideNumbers(int a, int b){
  System.out.println(a+" / "+b+" = "+(a/b));
 }

 public static void main (String...args) throws IOException{

  int valueOne;
  int valueTwo;
  int operation;
  int flag;

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

  do{
   System.out.println("Enter first value");
   valueOne = Integer.parseInt(br.readLine());
   System.out.println("Enter second value");
   valueTwo = Integer.parseInt(br.readLine());

   System.out.println("Choose following option according to Calculation you want to perform \n1 for Addition\n2 for Substraction\n3 for Multiplication\n4 for Division");

   operation = Integer.parseInt(br.readLine());
   if(operation == 1){
    addNumbers(valueOne, valueTwo);
   }else if(operation == 2){
    substractNumbers(valueOne, valueTwo);
   }else if(operation == 3){
    multiplyNumbers(valueOne, valueTwo);
   }else if(operation == 4){
    divideNumbers(valueOne, valueTwo);
   }else{
    System.out.println("You are performing wrong operation");
   }

   System.out.println("Enter 1 to countinue operation else press 0");
```

```
    flag = Integer.parseInt(br.readLine());
  }while(flag == 1);
 }
}
```

Out put for Menu driven Simple Calculator :

```
D:\Vinsys\HW\9_Codes_to_practice>javac SimpleCalculator.java

D:\Vinsys\HW\9_Codes_to_practice>java SimpleCalculator
Enter first value
10
Enter second value
3
Choose following option according to Calculation you want to perform
1 for Addition
2 for Substraction
3 for Multiplication
4 for Division
3
10 * 3 = 30
Enter 1 to countinue operation else press 0
1
Enter first value
60
Enter second value
30
Choose following option according to Calculation you want to perform
1 for Addition
2 for Substraction
3 for Multiplication
4 for Division
2
60 - 30 = 30
Enter 1 to countinue operation else press 0
0

D:\Vinsys\HW\9_Codes_to_practice>
```

2) Code for Finding out Prime numbers from 1 to 100 :

```
import java.io.*;

class PrimeNumber{
 public static void main(String...args)throws IOException{
```

```java
  boolean flag;

  for(int i = 2; i<=100; i++){
   flag = true;
   for(int j = 2; j<(i/2)+1; j++){
    if((i%j) == 0){
     flag = false;
     break;
    }
   }
   if(flag == true){
    System.out.println(i);
   }
  }
 }
}
```

Output for Code for Finding out Prime numbers from 1 to 100 :

```
D:\Vinsys\HW\9_Codes_to_practice>javac PrimeNumber.java
D:\Vinsys\HW\9_Codes_to_practice>java PrimeNumber
2
3
5
7
11
13
17
19
23
29
31
37
41
43
47
53
59
61
67
71
73
79
83
89
97
D:\Vinsys\HW\9_Codes_to_practice>
```

3) Code for Perfect Number :

```java
import java.io.*;

class PerfectNumber{
 public static void main(String...args)throws IOException{

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

  int value;
  int sum = 0;

  System.out.println("Enter a number to check if it is a perfect number or not");

  value = Integer.parseInt(br.readLine());

  for(int i = 1; i<(value/2)+1; i++){
   if ((value % i) == 0){
    sum = sum+i;
   }
  }

  if(sum == value){
   System.out.println("Given number "+value+" is a perfect number");
  }else {
   System.out.println("Given number "+value+" is not a perfect number");
  }
 }
}
```

Output of Perfect Number :

D:\Vinsys\HW\9_Codes_to_practice>javac PerfectNumber.java

D:\Vinsys\HW\9_Codes_to_practice>java PerfectNumber
Enter a number to check if it is a perfect number or not
28
Given number 28 is a perfect number

D:\Vinsys\HW\9_Codes_to_practice>java PerfectNumber
Enter a number to check if it is a perfect number or not
47
Given number 47 is not a perfect number

D:\Vinsys\HW\9_Codes_to_practice>java PerfectNumber
Enter a number to check if it is a perfect number or not
496
Given number 496 is a perfect number

D:\Vinsys\HW\9_Codes_to_practice>java PerfectNumber
Enter a number to check if it is a perfect number or not
490
Given number 490 is not a perfect number

D:\Vinsys\HW\9_Codes_to_practice>

4) Code to check if given number is Palindrome or not :

```java
import java.io.*;

class PalindromeNumber{
 public static void main (String...args)throws IOException{

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

  int value;
  int copy;
  int count = 0;
  int paste = 0;

  System.out.println("Enter a number to check if that number is palindrome or not");

  value = Integer.parseInt(br.readLine());
  copy = value;

  while(copy != 0){
   paste = paste * 10 + (copy%10);
   copy = copy / 10;
  }

  if(value == paste){
   System.out.println("Above number "+value+" is palindrome");
  }else{
   System.out.println("Above number "+value+" is not a palindrome");
  }

 }
}
```

Output of Code to check if given number is Palindrome or not :

```
D:\Vinsys\HW\9_Codes_to_practice>javac PalindromeNumber.java

D:\Vinsys\HW\9_Codes_to_practice>java PalindromeNumber
Enter a number to check if that number is palindrome or not
12321
Above number 12321 is palindrome

D:\Vinsys\HW\9_Codes_to_practice>java PalindromeNumber
Enter a number to check if that number is palindrome or not
23455432
Above number 23455432 is palindrome

D:\Vinsys\HW\9_Codes_to_practice>java PalindromeNumber
Enter a number to check if that number is palindrome or not
5643
```

Above number 5643 is not a palindrome

D:\Vinsys\HW\9_Codes_to_practice>java PalindromeNumber
Enter a number to check if that number is palindrome or not
5765675
Above number 5765675 is palindrome

D:\Vinsys\HW\9_Codes_to_practice>

5) Code to find out Fibonacci Series till N^th Number :

```java
import java.io.*;

class FibonacciSeries{
 public static void main (String...args)throws IOException{

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

   int value;
   int num1;
   int num2;

  System.out.println("Enter a number greater than 2");

  value = Integer.parseInt(br.readLine());

  num1 = 1;
  num2 = 1;

  System.out.print(" 1, "+"1, ");

  while (num2<value){
   num2 = num1 + num2;
   num1 = num2 - num1;
   if(num2>value){
    break;
   }
   System.out.print(num2+", ");
  }
 }
}
```

Output for Code to find out Fibonacci Series till N^th Number :

D:\Vinsys\HW\10_Code_to_practice>javac FibonacciSeries.java

D:\Vinsys\HW\10_Code_to_practice>java FibonacciSeries
Enter a number greater than 2
8

```
 1, 1, 2, 3, 5, 8,
D:\Vinsys\HW\10_Code_to_practice>java FibonacciSeries
Enter a number greater than 2
90
 1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89,
D:\Vinsys\HW\10_Code_to_practice>
```

6) Code for finding out the factorial of number :

```java
import java.io.*;

class Factorial{
 public static void main(String...args)throws IOException{

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

  int value;
  int sum = 1;

  System.out.println("Enter a number to find its factorial");

  value = Integer.parseInt(br.readLine());

  if(value != 0){
   for(int i = 1; i<=value; i++){
    sum = sum * i;
   }
   System.out.println(value+"! is "+ sum);
  }else if(value==0){
   System.out.println("0! is 1");
  }
 }
}
```

Output for the Code for finding out the factorial of number :

```
D:\Vinsys\HW\10_Code_to_practice>javac Factorial.java

D:\Vinsys\HW\10_Code_to_practice>java Factorial
Enter a number to find its factorial
8
8! is 40320

D:\Vinsys\HW\10_Code_to_practice>java Factorial
Enter a number to find its factorial
23
23! is 862453760
```

```
D:\Vinsys\HW\10_Code_to_practice>java Factorial
Enter a number to find its factorial
2
2! is 2

D:\Vinsys\HW\10_Code_to_practice>java Factorial
Enter a number to find its factorial
0
0! is 1

D:\Vinsys\HW\10_Code_to_practice>
```

7) Code for finding out if number is ArmStrong or not :

```
import java.io.*;

class ArmStrongNumber{
 public static void main(String...args)throws IOException{

  BufferedReader br = new BufferedReader(new InputStreamReader(System.in));

  int value = 0;
  int copy = value;
  int count = 0;
  int sum = 0;
  int rem;
  int copy2;
  int num = 0;
  int num2;
  boolean flag = false;

  System.out.println("Enter a number to check if it is a Armstrong number or not");

  value = Integer.parseInt(br.readLine());
  copy = value;

  while(copy!=0){
   copy = copy / 10;
   count++;
  }

  copy = value;

  while(copy!=0){
   rem = copy % 10;
   copy = copy / 10;
   copy2 = rem;
   num2 = rem;

   for(int i = 1; i<count; i++){
    num2 = num2 * copy2;
```

```
   }

   num = num + num2;
  }

  if(num == value){
   flag = true;
  }

  if(flag == true){
   System.out.println("Entered number "+num+" is ArmStrong number");
  }else{
   System.out.println("Entered number "+value+" is not a ArmStrong number");
  }
 }
}
```

Output for Code for finding out if number is ArmStrong or not :

D:\Vinsys\HW\10_Code_to_practice>javac ArmStrongNumber.java

D:\Vinsys\HW\10_Code_to_practice>java ArmStrongNumber
Enter a number to check if it is a Armstrong number or not
370
Entered number 370 is ArmStrong number

D:\Vinsys\HW\10_Code_to_practice>java ArmStrongNumber
Enter a number to check if it is a Armstrong number or not
371
Entered number 371 is ArmStrong number

D:\Vinsys\HW\10_Code_to_practice>java ArmStrongNumber
Enter a number to check if it is a Armstrong number or not
345
Entered number 345 is not a ArmStrong number

D:\Vinsys\HW\10_Code_to_practice>java ArmStrongNumber
Enter a number to check if it is a Armstrong number or not
1634
Entered number 1634 is ArmStrong number

D:\Vinsys\HW\10_Code_to_practice>java ArmStrongNumber
Enter a number to check if it is a Armstrong number or not
1872
Entered number 1872 is not a ArmStrong number

D:\Vinsys\HW\10_Code_to_practice>