1. Check Whether a Character is a Vowel or Consonant

Input: A single alphabet character

Output: Whether it is a vowel or a consonant

Example: 'a' → Vowel, 'z' → Consonant

```
import java.util.*;
class Main {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      char c=sc.next().charAt(0);
if(c=='a'||c=='e'||c=='i'||c=='o'||c=='u'||c=='A'||c=='E'||c=='I'||c=='O'||c=='
U')
      {
         System.out.print(c+ " is a Vowel");
      }
      else{
         System.out.print(c+ " is a Consonant");
      }
   }
}
```

2. Print the Grade Based on Marks

Input: Marks (0 to 100)

Use if-else ladder to print:

♣ 90–100 → Grade A

♣ 75–89 → Grade B

♣ 60–74 → Grade C

♣ 40–59 → Grade D

♣ Below 40 → Fail

```
import java.util.*;
```

```
class Main {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        int marks=sc.nextInt();
        if(marks>=90&&marks<=100){
            System.out.print("Grade A");

else if(marks>=75&&marks<=89){ System.out.print("Grade
B");
        }
        else if(marks>=60&&marks<=74){
            System.out.print("Grade C");
        }
        else if(marks>=40&&marks<=59){
            System.out.print("Grade D");
        }
        else if(marks<40){
            System.out.print("Fail");
        }
        else{
            System.out.print("Invalid Marks");
        }
    }
}
```

3. Simple Interest or Compound Interest Calculator

Input: User chooses 1 for Simple Interest, 2 for Compound Interest

Take input for P (principal), R (rate), T (time)

Output: Display the calculated interest

```
import java.util.*;
class Main {
   public static void main(String[] args) {
      Scanner sc=new Scanner(System.in);
      int p=sc.nextInt();
      int   r=sc.nextInt();
      int   t=sc.nextInt();
      int SI=(p*r*t)/100;
      double a=p*Math.pow((1+(r/100.0)),t);
      double CI=a-p;
      System.out.println(SI);
      System.out.println(CI);
   }
      }
```

4. Print All Prime Numbers from 1 to N

Input: A number N

Output: All prime numbers between 1 and N using for loop and if conditions

```
import java.util.Scanner;
public class PrimeNumbers {
   public static void main(String[] args) {
      Scanner s = new Scanner(System.in);
      int N = s.nextInt();
      for (int i = 2; i <= N; i++) {
         boolean prime = true;
         for (int j = 2; j <= i / 2; j++) {
            if (i % j == 0) {
               prime = false;
               break;
            }
         }
         if (prime) {
            System.out.print(i + " ");
         }
      }
   }
}
```