//Assignment 2

//1.

**package** psr;

**import** java.util.Scanner;

**public** **class** homework {

**public** **static** **void** main(String[]args) {

Scanner sc = **new** Scanner(System.***in***);

**char** ch = sc.next().charAt(0);

**if** (ch >= 'a' && ch <= 'z' || ch >= 'A' && ch <= 'Z' ) {

**if** (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' || ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U') {

System.***out***.println(ch + " Vowel");

} **else** {

System.***out***.println(ch + " Consonant");

}

} **else** {

System.***out***.println("Invalid input! Please enter an alphabet character.");

}

}}

//2.

**package** psr;

**import** java.util.Scanner;

**public** **class** homework {

**public** **static** **void** main(String[]args) {

Scanner sc = **new** Scanner(System.in);

**int** mark = sc.nextInt();

**if**(90>=mark || mark<=100)

System.out.println("Grade A");

**else** **if** (75>=mark || mark <= 89)

System.out.println("Grade B");

**else** **if** (60>=mark || mark <= 74)

System.out.println("Grade C");

**else** **if** (40>=mark || mark <= 59)

System.out.println("Grade D");

**else** **if** (mark<40)

System.out.println("Fail");

**else**

System.out.println("Invalid mark");

}}

//4.

//package psr;

**import** java.util.Scanner;

**public** **class** homework {

**public** **static** **void** main(String[]args) {

Scanner sc = **new** Scanner(System.in);

**int** N = sc.nextInt();

**for** (**int** num = 2; num <= N; num++) {

**boolean** isPrime = **true**;

**for** (**int** i = 2; i < num; i++) {

**if** (num % i == 0) {

isPrime = **false**;

**break**;

}

}

**if** (isPrime) {

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

}

}

}

}

//3.

**package** psr;

**import** java.util.Scanner;

**public** **class** homework {

**public** **static** **void** main(String[]args) {

Scanner sc = **new** Scanner(System.in);

System.out.println("1 - Simple Interest");

System.out.println("2 - Compound Interest");

**int** n = sc.nextInt();

System.out.print(" Principal (P): ");

**double** P = sc.nextDouble();

System.out.print(" Rate of Interest (R) in %: ");

**double** R = sc.nextDouble();

System.out.print(" Time (T) in years: ");

**double** T = sc.nextDouble();

**switch**(n) {

**case** 1:

**double** simpleInterest = (P \* R \* T) / 100;

System.out.println("Simple Interest = " + simpleInterest);

**break**;

**case** 2 :

**double** compoundInterest = P \* Math.pow((1 + R / 100), T) - P;

System.out.println("Compound Interest = " + compoundInterest);

**break**;

**default**:

System.out.println("Invalid");

}

}

}