Homework 8

Homework 8.1

Write a function to calculate the kinetic energy of the element

ke=m.v22ke=m.v22

which takes 2 arguments: m for mass (kg) and v for speed (m/s)

Create a program to read mass and speed from user's input then call the function to calculate its kinetic energy

Homework 8.2

Write **is\_prime** function that accepts a positive integer and returns 1 if it’s a prime number and 0 if it's not.

int is\_prime(int n);

Then create a program which gets a positive integer from the user and prints all the prime numbers from 2 up to that integer.

Homework 8.3

Write a function to calculate the worker’s salary by a week. The function takes 1 argument: Total number of working hours and return the total salary calculated as below.

The average salary is 15000 VND for each working hour. If they work more than 40 hours (overtime), the worker is paid 1.5 time more each hour.

Then create a program to calculate the salary by asking the total number of working hour from user's input. The program must check for data validation: A worker can not work less than 10 hours or more than 65 hours a week.

Homework 8.4

A year is a leap year if it's a multiple of 4 but NOT a multiple of 100. For example, 1996 and 2000 are leap years, but 1900, 2002 and 2100 are not.

Write **isLeapYear(int year)** function to check if a year is a leap year or not. Then write a program which asks for month and year from user's input, then display the number of days in that month.