PROGRAMMING EXERCISE 1

1. Write a program to get user input for value of n and determine the sum of the following series: $1 + \frac{1}{2} + \frac{1}{3} + \ldots\ldots \frac{1}{n-1} + \frac{1}{n}$

   Evidence 1: Your program code.
   Evidence 2: Produce screenshot by running program, user to input the following values of n:
   - 0
   - 1
   - 2
   - 10
   - 100

2. Write a program that will read a real number x, where 10 < x < 20, from keyboard and print the following output in one line:

Smallest integer not less than the number	*The given number*	*Largest integer not greater than the number*

   Evidence 3: Your program code.
   Evidence 4: Screenshots of four test data.

3. The total distance travelled by a vehicle in t seconds is given by $\text{distance} = ut + \frac{at^2}{2}$, *u*: initial velocity (m/s), *a*: acceleration, (m/s^2).

   Write a program to evaluate the distance travelled at regular intervals of time, given the values of u and a. The program should allow the user to select his own time intervals and repeat the calculations for different values of u and a. Display a table with values of t and distance travelled (to 1 decimal place).

   For example, the table shows a time interval of 1 second, with values of u=2 and a=5.

Time	1	2	3	4	5
Distance	4.5	14.0	28.5	48.0	72.5

   Evidence 5: Your program code.
   Evidence 6: Screenshots of the following test data:
   - u=0, a=3, t=1
   - u=2.5, a=3.2, t=2