**Hands – On Lab Workshop 3***.*

# AREA OF TRIANGLE

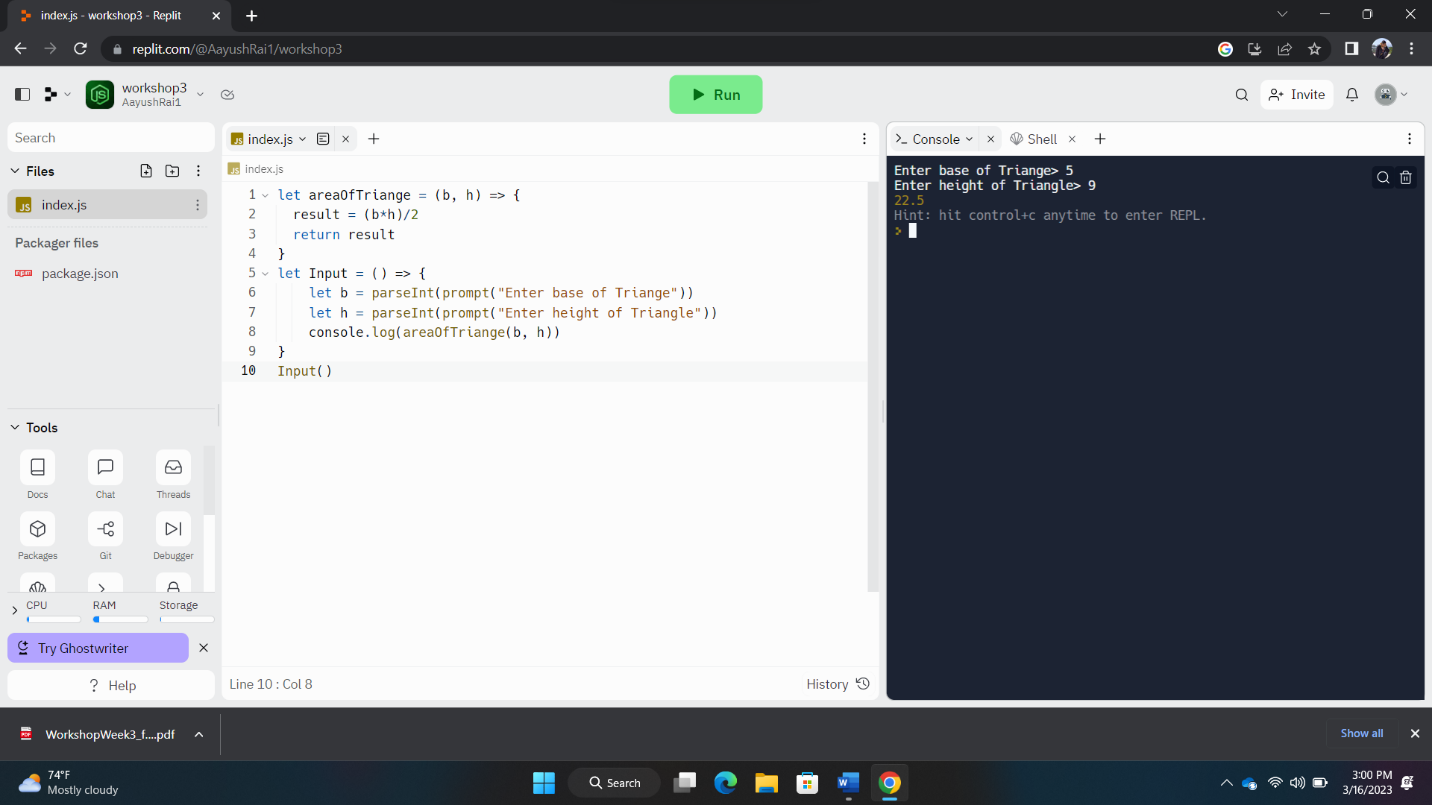
Write a function that takes the base and height of a triangle and return its area.

Example:

Areaoftriangle (3, 4) 6

Areaoftriangle (7, 8) 28 Notes

* Area of triangle is (base \* height)/2
* Don’t forget to return the result

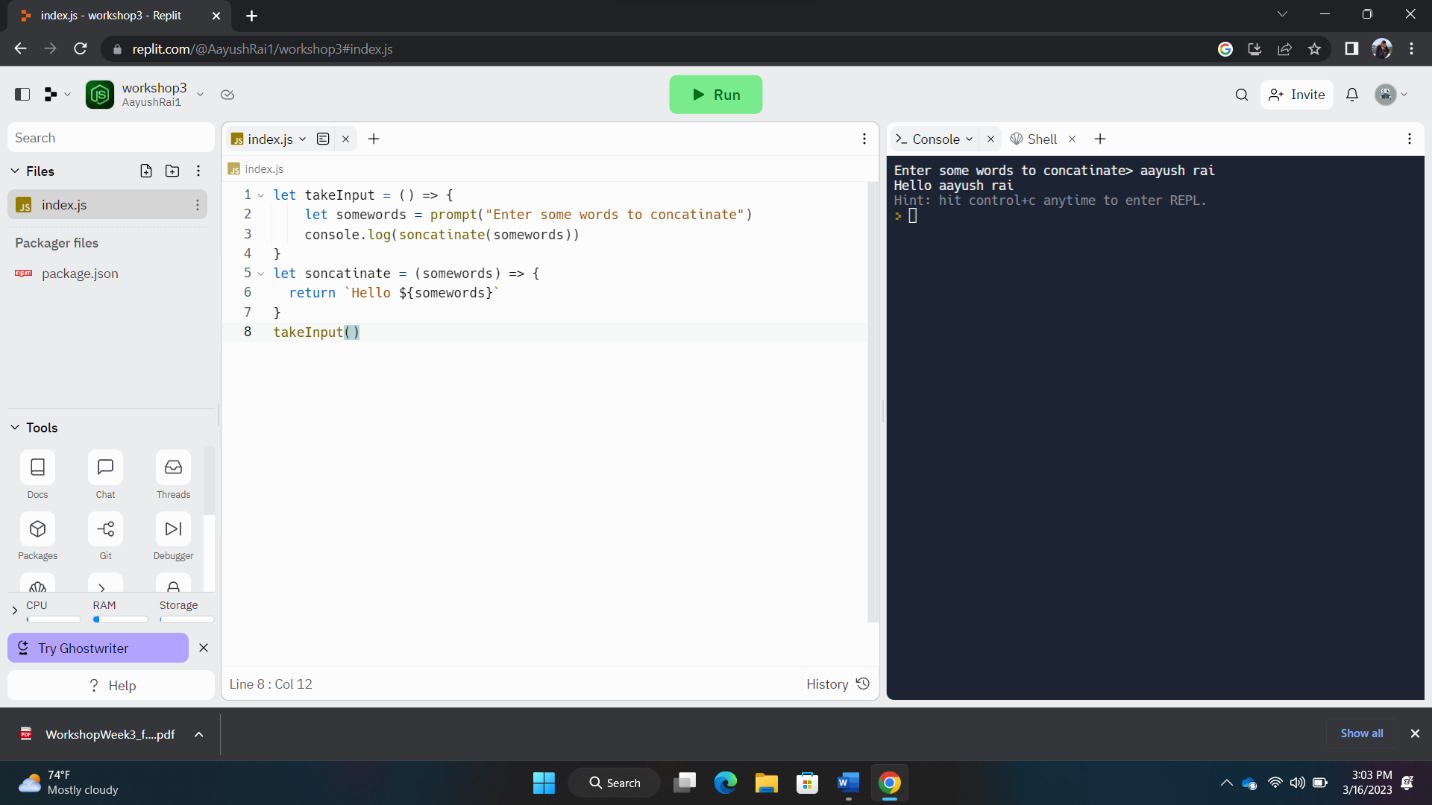


**RETURN SOMETHING TO ME!**

Write a function that returns the string "something" joined with a space " " and the given argument.

# Examples

giveMeSomething("is better than nothing") ➞ "something is better than nothing" giveMeSomething("Bob Jane") ➞ "something Bob Jane" giveMeSomething("something") ➞ "something something”

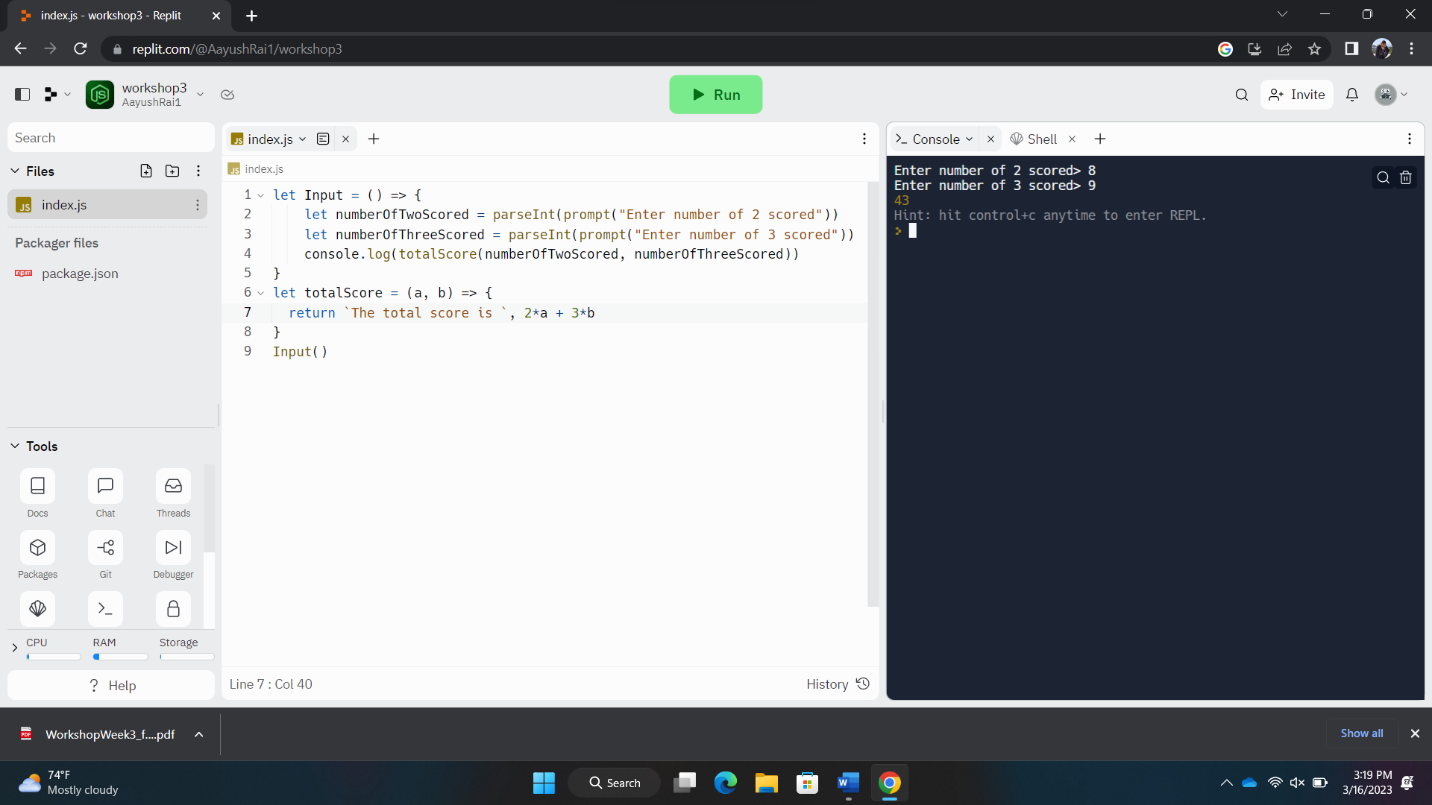


# BASKETBALL POINTS

You are counting points for a basketball game, given the amount of 2 – pointer scored and 3 – pointer scored, find the final points for the team and return the value.

Example:

points (3,5) 3\*2 + 5\*3 = 21 points (1,1) 5



**LESS THAN 100?**

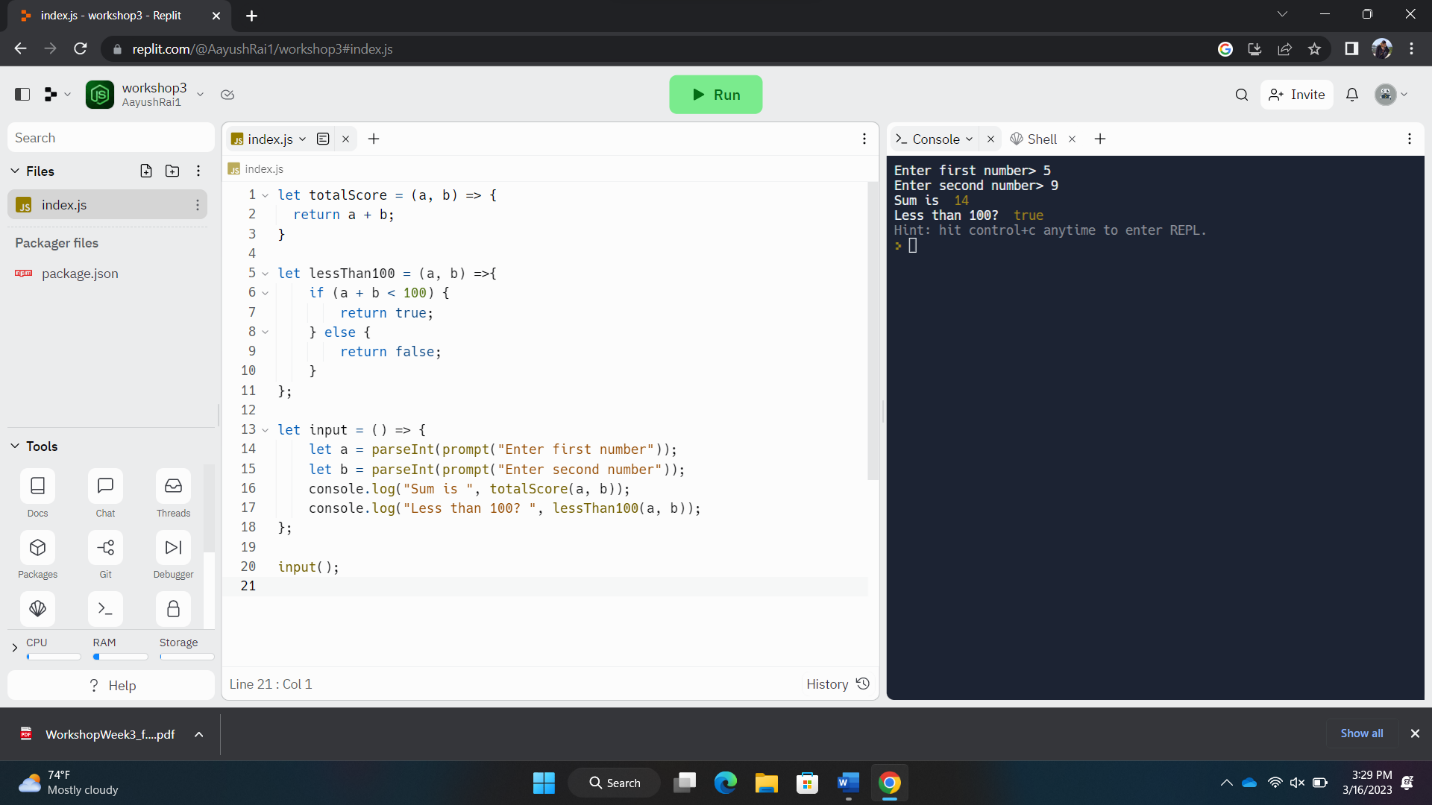
Given two numbers, return true if the sum of both numbers is less than 100.

Otherwise return false.

# Examples

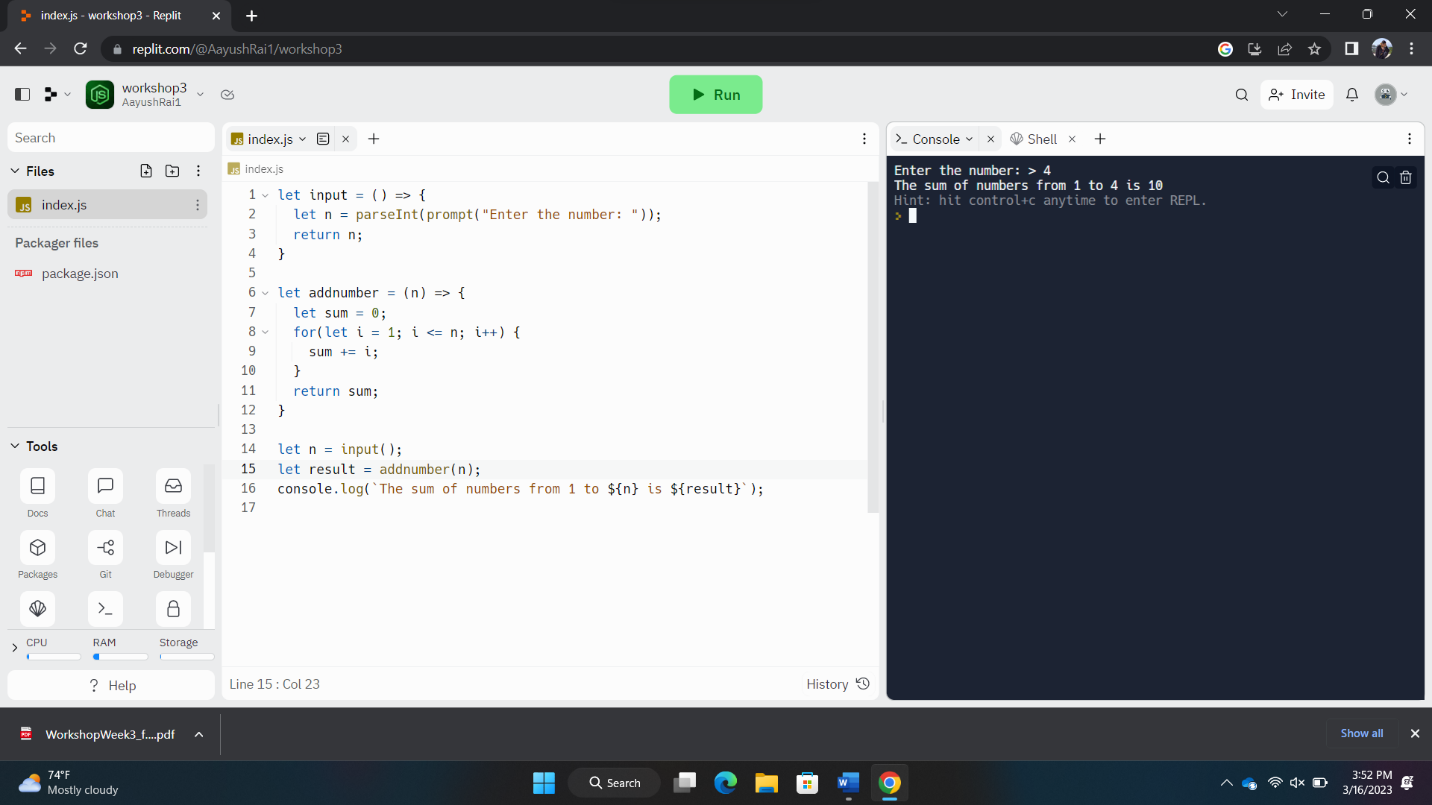
lessThan100(22, 15) ➞ true

// 22 + 15 = 37 lessThan100(83, 34) ➞ false // 83 + 34 = 117 lessThan100(3, 77) ➞ true



# ADD UPTO THE NUMBER FROM A SINGLE NUMBER

Create a function that takes a number as an argument. Add up all the numbers from 1 to the number you passed to the function. For example, if the input is 4 then your function should return 10 because 1+2+3+4 = 10



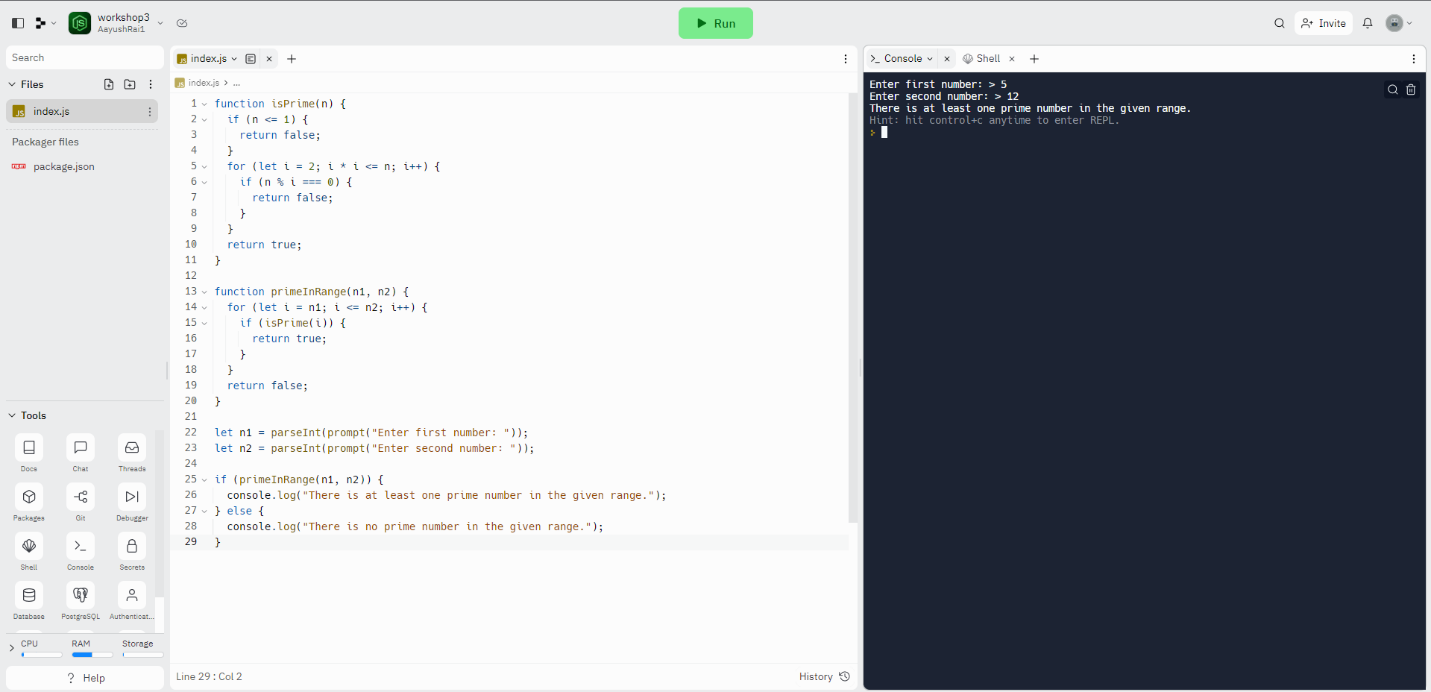
# ANY PRIME NUMBER IN RANGE

Create a function that return true if there is at least one prime number in the given range(n1 to n2) inclusive, false otherwise.

**Example:** primeInRange(10,15) true

// prime number is range : 11, 13 primeInRange(3,1) true

// prime number is range : 3, 5



# ODDISH VS. EVENISH

Create a function that determines whether a number is Oddish or Evenish. A number is Oddish if the sum of all of its digits is odd, and a number is Evenish if the sum of all of its digits is even. If a number is Oddish, return "Oddish". Otherwise, return "Evenish".

For example, oddishOrEvenish(121) should return "Evenish", since 1 + 2 + 1 =

4. oddishOrEvenish(41) should return "Oddish", since 4 + 1 = 5.

# Examples

oddishOrEvenish(43) ➞ "Oddish"

// 4 + 3 = 7 // 7 % 2 = 1

oddishOrEvenish(373) ➞ "Oddish"

// 3 + 7 + 3 = 13 // 13 % 2 = 1

oddishOrEvenish(4433) ➞ "Evenish"

// 4 + 4 + 3 + 3 = 14

// 14 % 2 = 0

Graphical user interface, text, application

Description automatically generated

# LEFT SHIFT BY POWERS OF TWO

The left shift operation is similar to multiplication by powers oftwo.

Sample calculation using the left shift operator (<<):

10 << 3 = 10 \* 2^3 = 10 \* 8 = 80

-32 << 2 = -32 \* 2^2 = -32 \* 4 = -128

5 << 2 = 5 \* 2^2 = 5 \* 4 = 20

Write a function that mimics (withoutthe use of <<)the left shift operator and returns the resultfrom the two given integers.

# Examples

shiftToLeft(5, 2) ➞ 20 shiftToLeft(10, 3) ➞ 80 shiftToLeft(-32, 2) ➞ -128 shiftToLeft(-6, 5) ➞ -192 shiftToLeft(12, 4) ➞ 192 shiftToLeft(46, 6) ➞ 2944 Notes

* There will be no negative values for the second parameter y.
* This challenge is more like recreating the left shift operation,thus,the use ofthe operator directly is prohibited.
* Alternatively, you can solve this challenge via recursion.

Graphical user interface, text, application

Description automatically generated

# CONVERT A NUMBER TO BASE-2

Create a function that returns a base-2 (binary) representation of a base-10 (decimal) string number. To convertis simple: ((2) means base-2 and (10) means base-10) 010101001(2) = 1 + 8 + 32 + 128.

Going from rightto left,the value ofthe most right bitis 1, now from that every bitto the left will be x2. The values of an 8 bit binary number are (256, 128, 64, 32, 16, 8, 4, 2, 1).

# Examples

binary(1) ➞ "1"

// 1\*1 = 1 binary(5) ➞ "101" // 1\*1 + 1\*4 = 5 binary(10) ➞ "1010"

// 1\*2 + 1\*8 = 10

Notes

* Numbers will always be below 1024 (notincluding 1024).
* The && operator could be useful.
* The strings will always go to the length at which the mostleft bit's value gets bigger than the number in decimal.
* If a binary conversion for 0 is attempted, return "0".

Graphical user interface, text, application

Description automatically generated

# GUESSING GAME

Generate a random number (do research) and store it in a variable. Write a program to take input from the user and tell them whether their guessed number is correct, greater or lesser than the original number. (100 – number of guesses) is the score of user. The program is expected to terminate once the number is guessed. Number should be between 1 – 100.

Example:

Random number generated by computer: 54

User input: 34

// lesser than original number

User input: 67

// greater than original number

User input: 54

// congratulations!!! The number you guessed matched the original number. Your score is 97!

Graphical user interface, text, application

Description automatically generated

# HIGHER ORDER ARRAY METHODS

Const age = [23,34,12,54,23,54,11,9,29,17,15,19,20,21,13,7]

1. Filter the array of age who can apply for citizenships
2. Find the average age of a given array Const companies = [

{ name: "ABC", category: "Finance", start: 1981, end: 2004 },

{ name: "XYZ", category: "Retail", start: 1991, end: 20012 },

{ name: "DGF", category: "Finance", start: 1976, end: 2008 },

{ name: "LFT", category: "Retail", start: 1971, end: 1979 },

{ name: "MND", category: "Retail", start: 1995, end: 2010 },

{ name: "HCK", category: "Technology", start: 1987, end: 2011 },

{ name: "BMC", category: "Technology", start: 1989, end: 2009 },

{ name: "TIC", category: "Retail", start: 1993, end: 2005 },

{ name: "NAC", category: "Technology", start: 1991, end: 2010 },

{ name: "ITC", category: "Finance", start: 1998, end: 2016 }

];

1. Filter the retail companies
2. Get the 80s companies from the array
3. Get the companies that lasted for 10 or more years

Graphical user interface, text, application, chat or text message

Description automatically generated

Graphical user interface, text

Description automatically generated