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

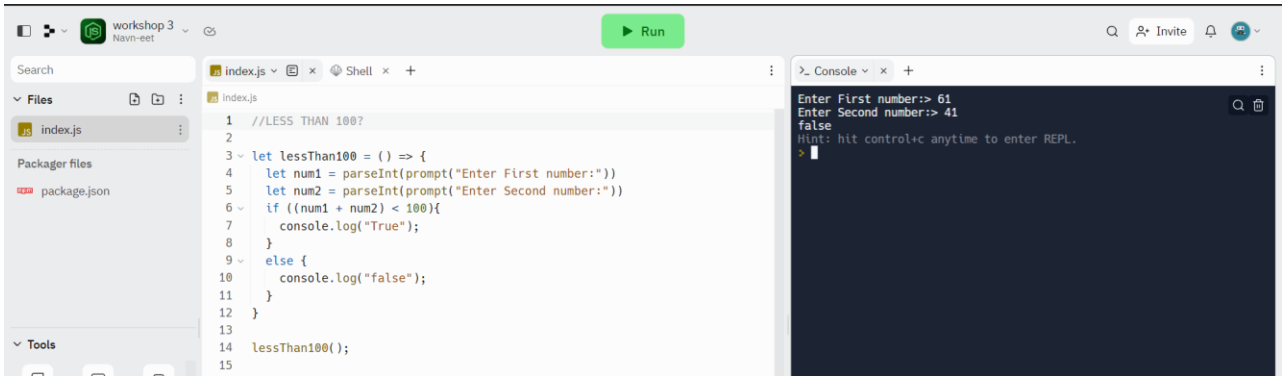
// 22 + 15 = 37

lessThan100(83, 34) ⟶ false

// 83 + 34 = 117

lessThan100(3, 77) ⟶ true

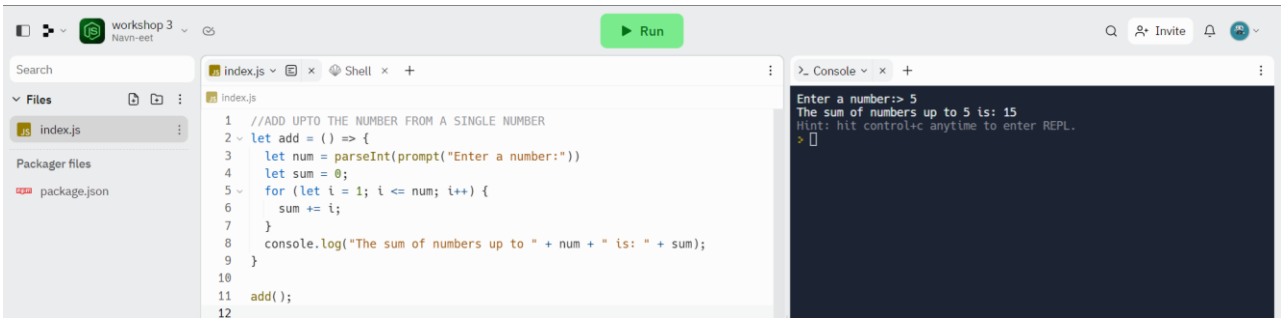
→


workshop 3
Navn-eet
Run
Invite
Search
Files
index.js
Packager files
package.json
Tools
index.js
Shell
index.js
1 //LESS THAN 100?
2
3 let lessThan100 = () => {
4 let num1 = parseInt(prompt("Enter First number:"))
5 let num2 = parseInt(prompt("Enter Second number:"))
6 if ((num1 + num2) < 100){
7 console.log("True");
8 }
9 else {
10 console.log("false");
11 }
12 }
13
14 lessThan100();
15
Console
Enter First number:> 61
Enter Second number:> 41
false
Hint: hit control+c anytime to enter REPL.
>

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:

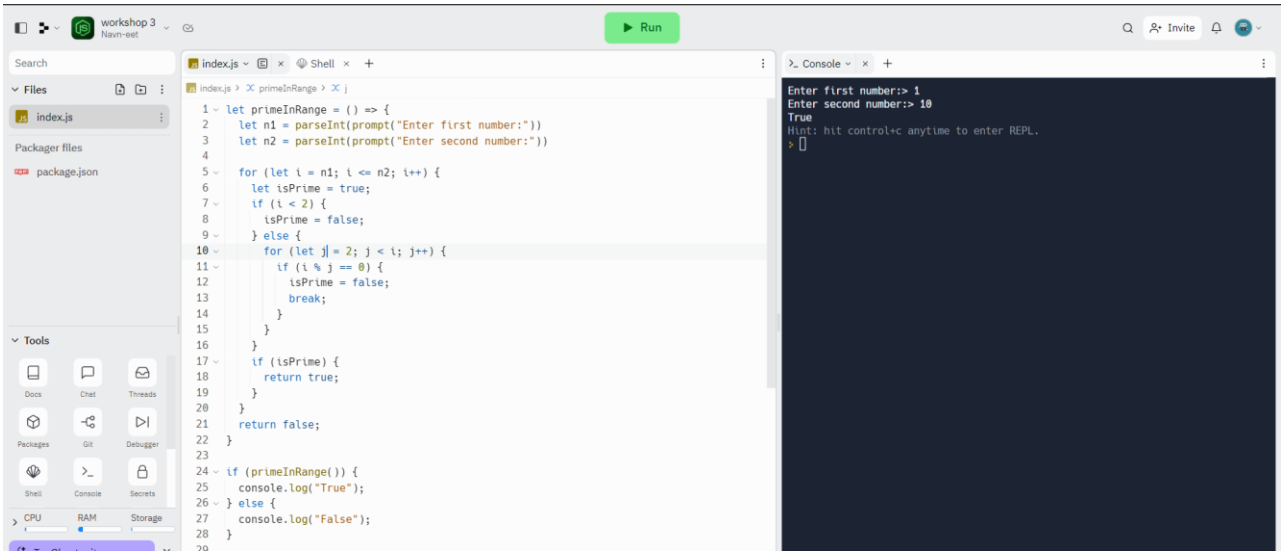
primeInRange(10,15) ⟶ true

// 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

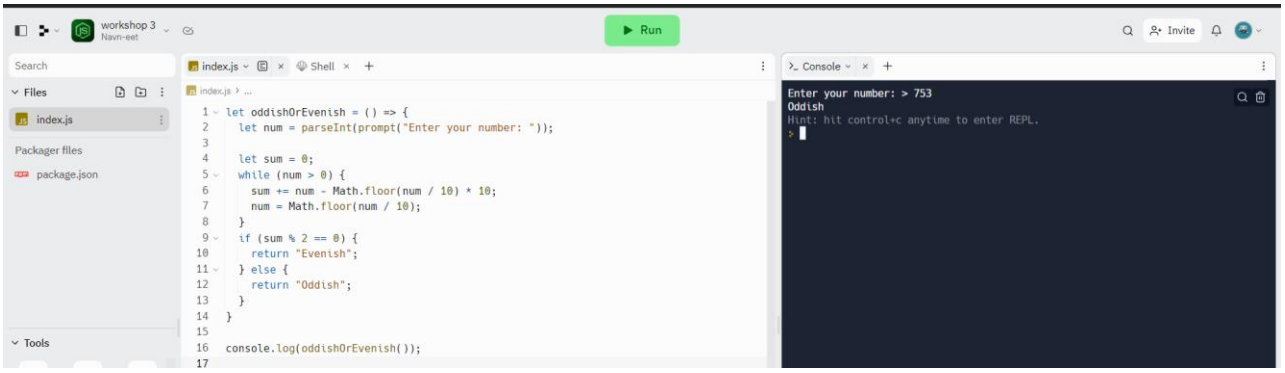
// 13 % 2 = 1

oddishOrEvenish(4433) ➞ "Evenish"

// 4 + 4 + 3 + 3 = 14

// 14 % 2 = 0

→



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.

→

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"

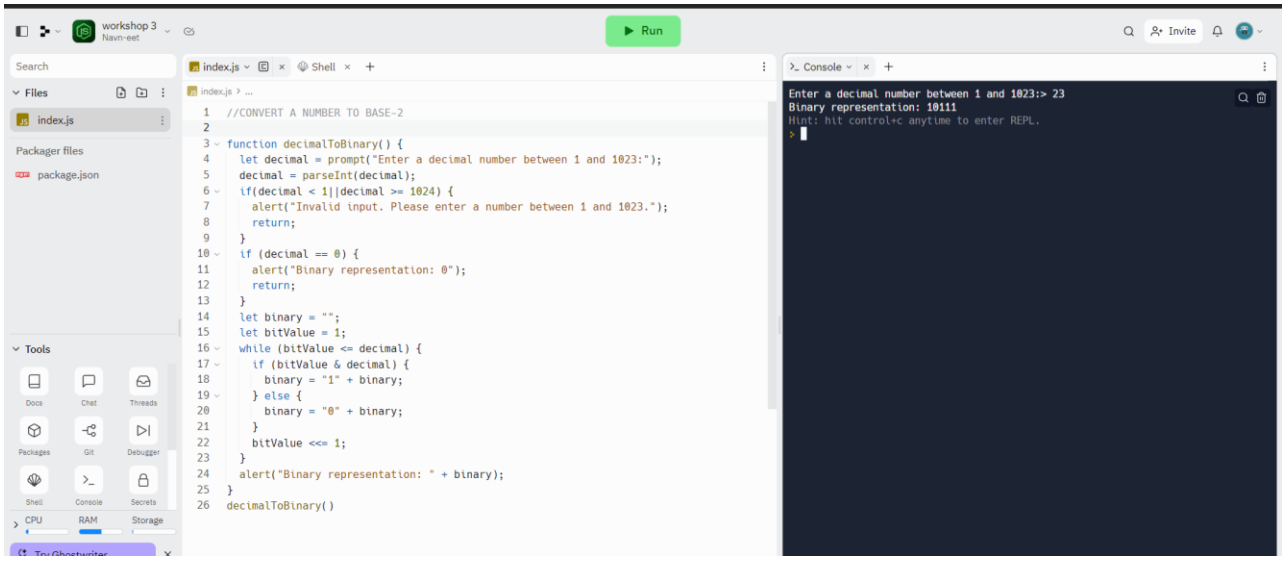
// 1*1 + 1*4 = 5

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".



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

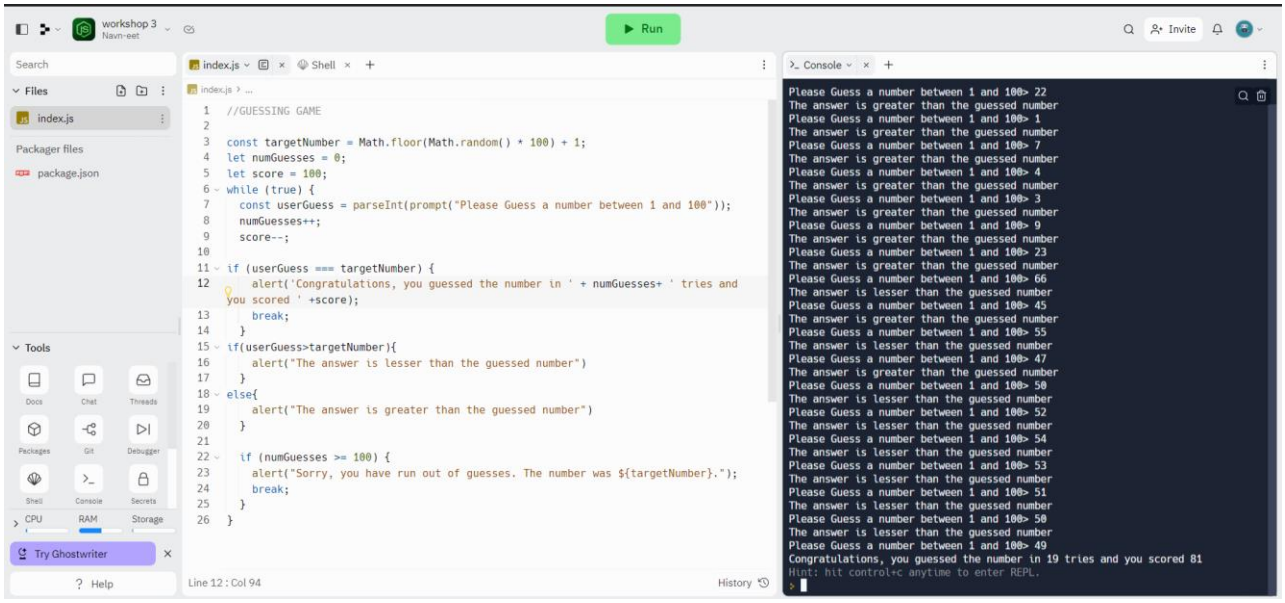
// lesser than original number

User input: 67

// greater than original number

User input: 54

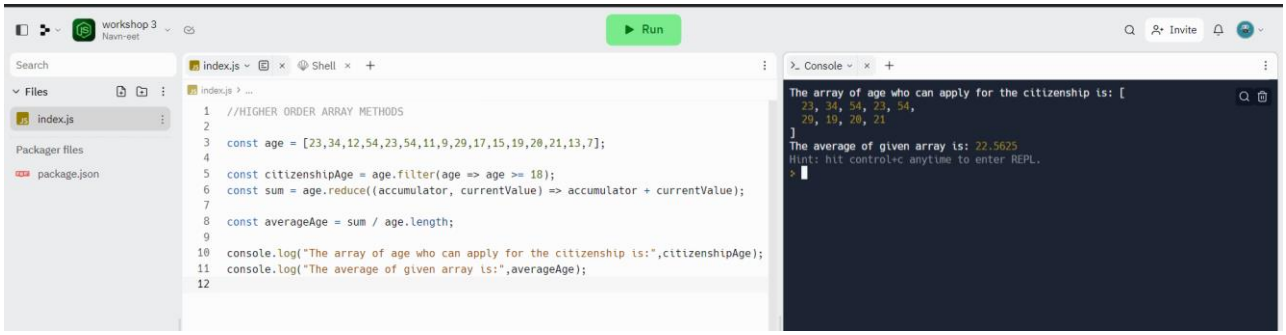
// congratulations!!! The number you guessed matched the original number. Your score is 97!



HIGHER ORDER ARRAY METHODS

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

a. Filter the array of age who can apply for citizenships
b. 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 },

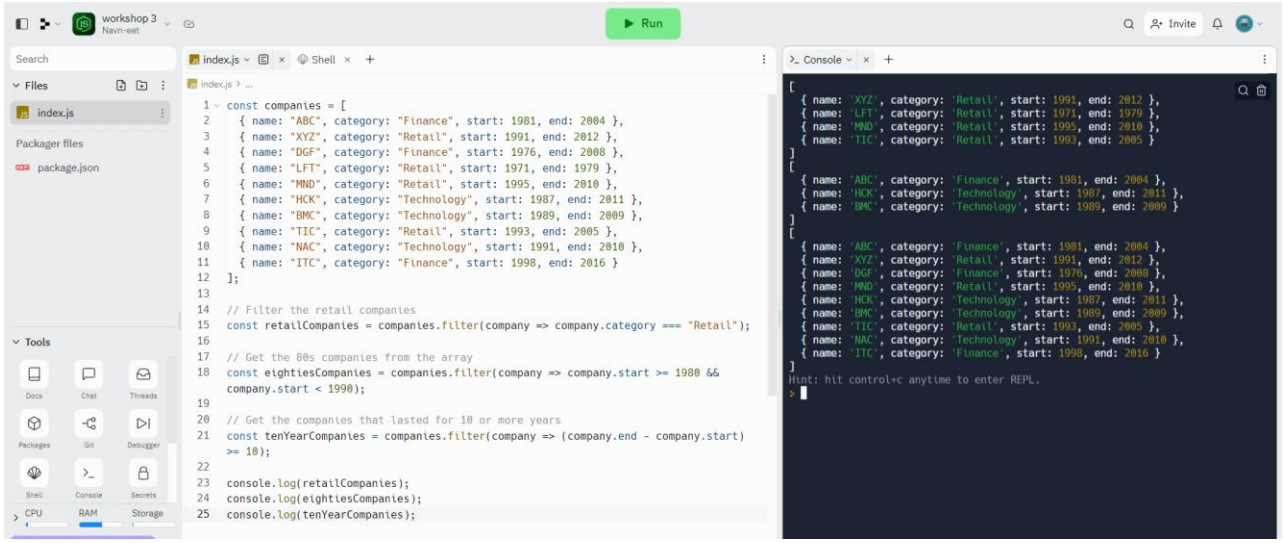
{ name: "TIC", category: "Retail", start: 1993, end: 2005 },

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

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

];

a. Filter the retail companies
b. Get the 80s companies from the array
c. Get the companies that lasted for 10 or more years


workshop 3
Navn-eet
Run
Invite
Search
Files
index.js
Packager files
package.json
Tools
Docs
Chat
Threads
Packages
Git
Debugger
Shell
Console
Secrets
CPU
RAM
Storage
index.js
Shell
index.js > ...
1 const companies = [
2 { name: "ABC", category: "Finance", start: 1981, end: 2004 },
3 { name: "XYZ", category: "Retail", start: 1991, end: 2012 },
4 { name: "DGF", category: "Finance", start: 1976, end: 2008 },
5 { name: "LFT", category: "Retail", start: 1971, end: 1979 },
6 { name: "MND", category: "Retail", start: 1995, end: 2010 },
7 { name: "HCK", category: "Technology", start: 1987, end: 2011 },
8 { name: "BMC", category: "Technology", start: 1989, end: 2009 },
9 { name: "TIC", category: "Retail", start: 1993, end: 2005 },
10 { name: "NAC", category: "Technology", start: 1991, end: 2010 },
11 { name: "ITC", category: "Finance", start: 1998, end: 2016 }
12];
13
14 // Filter the retail companies
15 const retailCompanies = companies.filter(company => company.category === "Retail");
16
17 // Get the 80s companies from the array
18 const eightiesCompanies = companies.filter(company => company.start >= 1980 &&
company.start < 1990);
19
20 // Get the companies that lasted for 10 or more years
21 const tenYearCompanies = companies.filter(company => (company.end - company.start)
>= 10);
22
23 console.log(retailCompanies);
24 console.log(eightiesCompanies);
25 console.log(tenYearCompanies);
Console
[
{ name: 'XYZ', category: 'Retail', start: 1991, end: 2012 },
{ name: 'LFT', category: 'Retail', start: 1971, end: 1979 },
{ name: 'MND', category: 'Retail', start: 1995, end: 2010 },
{ name: 'TIC', category: 'Retail', start: 1993, end: 2005 }
]
[
{ name: 'ABC', category: 'Finance', start: 1981, end: 2004 },
{ name: 'HCK', category: 'Technology', start: 1987, end: 2011 },
{ name: 'BMC', category: 'Technology', start: 1989, end: 2009 }
]
[
{ name: 'ABC', category: 'Finance', start: 1981, end: 2004 },
{ name: 'XYZ', category: 'Retail', start: 1991, end: 2012 },
{ name: 'DGF', category: 'Finance', start: 1976, end: 2008 },
{ 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 }
]
Hint: hit control+c anytime to enter REPL.
>