Workshop 3

1. Area of a Triangle

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

Examples

```
triArea(3, 2) →3

triArea(7, 4) →14

triArea(10, 10) →50
```

Notes

- The area of a triangle is: `(base * height) / 2`
- Don't forget to `return` the result.

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index.js > ...

```javascript
function AreaOfTriangle(base, height){
    var area=(base*height)/2;
    return area;
}

let n1=parseInt(prompt("Enter the base"))
let n2=parseInt(prompt("Enter the height"))
console.log(AreaOfTriangle(n1,n2));

```

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Console × Shell

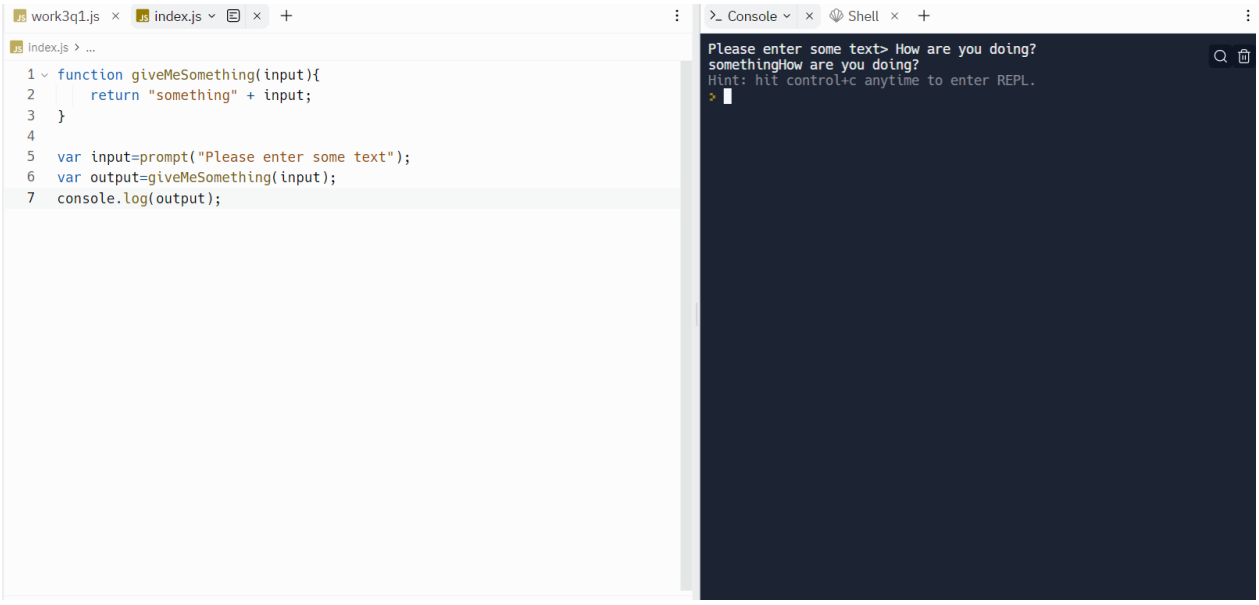
```
Enter the base> 5
Enter the height> 6
15
Hint: hit control+c anytime to enter REPL.
>
```

2. Return Something to Me!

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

Examples

`giveMeSomething("is better than nothing")` →`"something is better than nothing"` `giveMeSomething("Bob Jane")` →`"something Bob Jane"` `giveMeSomething("something")` →`"something something`



3. Basketball Points

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

Examples

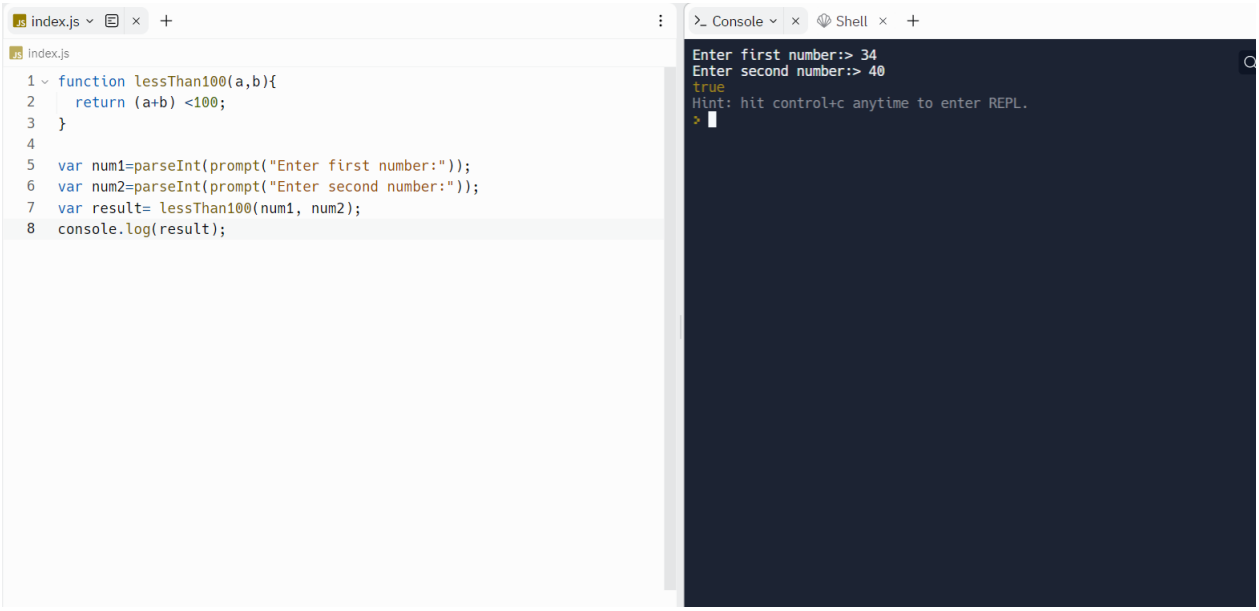
```
points(1, 1) →5

points(7, 5) →29

points(38, 8) →100
```

4.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
```



5.Add up the Numbers from a Single Number

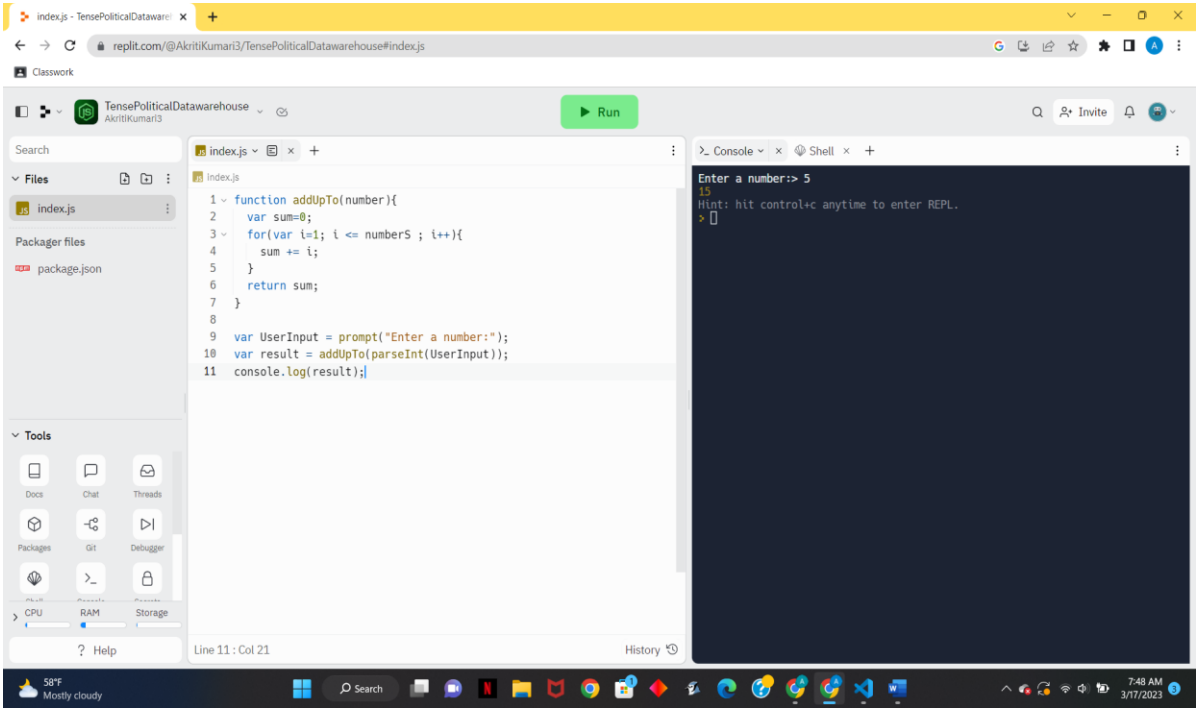
Create a function that takes a number as an argument. Add up all the numbers from 1 to the number you passed to the function. For example, if the input is 4 then your function should return 10 because 1 + 2 + 3 + 4 = 10.

Examples

```
addUp(4) →10

addUp(13) →91

addUp(600) →180300
```

Notes

Expect any positive number between 1 and 1000.



6.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
```

```javascript
function oddishOrEvenish(num) {
  var sum = 0;
  while (num > 0) {
    sum += num % 10;
    num = Math.floor(num / 10);
  }
  if (sum % 2 == 0) {
    return "Evenish";
  } else {
    return "Oddish";
  }
}

var userInput = parseInt(prompt("Enter a number:"));
console.log(oddishOrEvenish(userInput));
```

```
Enter a number:> 1345
Oddish
Hint: hit control+c anytime to enter REPL.
```

7.Any Prime Number in Range

Create a function that returns `true` if there's at least one prime number in the given range

(`n1` to `n2` (inclusive)), `false` otherwise. **Examples**

```
primeInRange(10, 15) →true //

Prime numbers in range: 11, 13

primeInRange(62, 66) →false

// No prime numbers in range.

primeInRange(3, 5) →true

// Prime numbers in range: 3, 5
```

Notes

- `n2` is always greater than `n1`.
- `n1` and `n2` are always positive.
- 0 and 1 aren't prime numbers.

index.js

```javascript
function isPrime(n) {
  if (n <= 1) {
    return false;
  }
  for (let i = 2; i * i <= n; i++) {
    if (n % i === 0) {
      return false;
    }
  }
  return true;
}

function primeInRange(n1, n2) {
  for (let i = n1; i <= n2; i++) {
    if (isPrime(i)) {
      return true;
    }
  }
  return false;
}

let n1 = parseInt(prompt("Enter first number: "));
let n2 = parseInt(prompt("Enter second number: "));

if (primeInRange(n1, n2)) {
  console.log("There is at least one prime number in the given
```

Console Shell

```
Enter first number: > 10
Enter second number: > 20
There is at least one prime number in the given range.
Hint: hit control+c anytime to enter REPL.
>
```

index.js

```javascript
    if (isPrime(i)) {
      return true;
    }
  }
  return false;
}

let n1 = parseInt(prompt("Enter first number: "));
let n2 = parseInt(prompt("Enter second number: "));

if (primeInRange(n1, n2)) {
  console.log("There is at least one prime number in the given
range.");
} else {
  console.log("There is no prime number in the given range.");
}
```

Console Shell

```
Enter first number: > 10
Enter second number: > 20
There is at least one prime number in the given range.
Hint: hit control+c anytime to enter REPL.
>
```

8.Left Shift by Powers of Two

The left shift operation is similar to multiplication by powers of two.

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
```

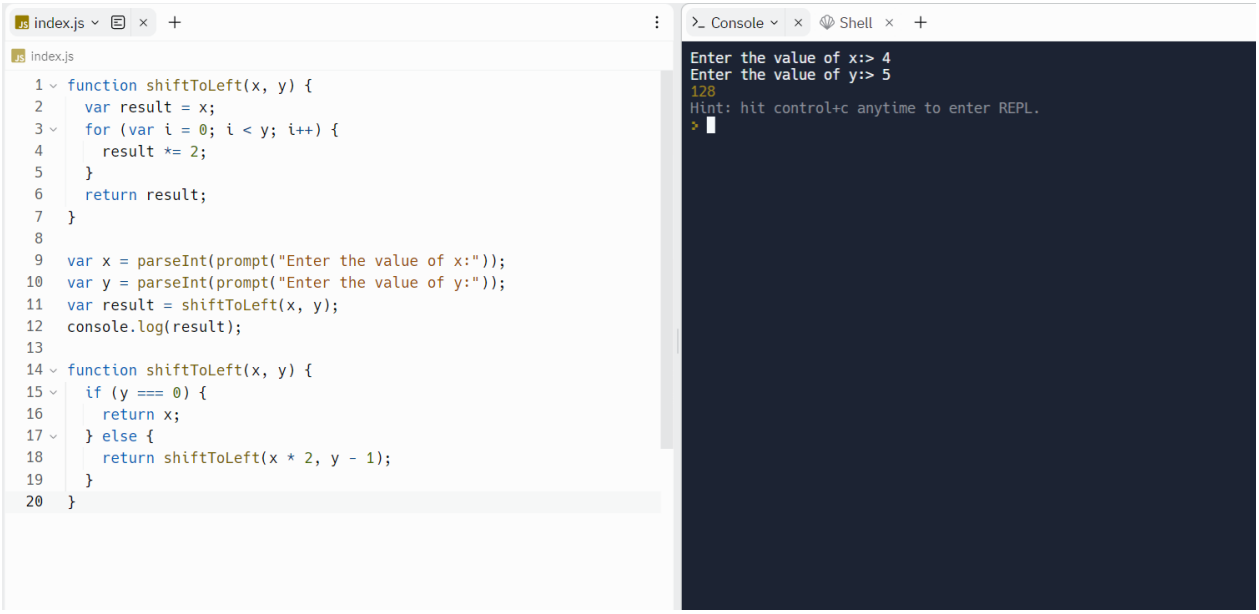
Write a function that mimics (without the use of <<) the left shift operator and returns the result from the two given integers.

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 of the operator directly is prohibited.**
- **Alternatively, you can solve this challenge via recursion.**



9.Convert a Number to Base-2

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

Going from right to left, the value of the most right bit is 1, now from that every bit to 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 (not including 1024).**
- **The `&&` operator could be useful.**
- **The strings will always go to the length at which the most left bit's value gets bigger than the number in `decimal`.**
- **If a binary conversion for `0` is attempted, return `"0"`.**