Basic 03 – Functions

# Exercise 01: Minimum

Write a function min that takes two arguments and returns their minimum.

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| function min(a , b) {  if(a > b){  return b;  }  else if(a == b){  return "Chung bang nhau ma !";  }  else {  return a;  }  }  console.log(min(0, 10));  // → 0  console.log(min(0, -10));  // → -10 |

# Exercise 02: Recursion

We’ve seen that % (the remainder operator) can be used to test whether a number is even or odd by using % 2 to see whether it’s divisible by two. Here’s another way to define whether a positive whole number is even or odd:

* Zero is even.
* One is odd.
* For any other number *N*, its evenness is the same as *N* - 2.

Define a recursive function isEven corresponding to this description. The function should accept a single parameter (a positive, whole number) and return a Boolean.

Test it on 50 and 75. See how it behaves on -1. Why? Can you think of a way to fix this?

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| function isEven(n) {  if (n == 0){  return true;  }  else if (n == (-1)){  return false;  }  return isEven(n-2)  }  console.log(isEven(50));  // → true  console.log(isEven(75));  // → false  console.log(isEven(-1));  // → false |

# Exercise 03: Bean Counting

You can get the Nth character, or letter, from a string by writing "string"[N]. The returned value will be a string containing only one character (for example, "b"). The first character has position 0, which causes the last one to be found at position string.length - 1. In other words, a two-character string has length 2, and its characters have positions 0 and 1.

Write a function countBs that takes a string as its only argument and returns a number that indicates how many uppercase “B” characters there are in the string.

Next, write a function called countChar that behaves like countBs, except it takes a second argument that indicates the character that is to be counted (rather than counting only uppercase “B” characters). Rewrite countBs to make use of this new function.

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| function countBs(a){  var x = [];  var j = 0;  var rs = [];    for(let i = 0; i < a.length; i+=1){  if (a[i] == a[i].toUpperCase()){  x[j] = [];  x[j][0] = a[i];  x[j][1] = countChar(a,a[i]);  j += 1;  }  }  j = 0;  for(let i = 0; i < x.length ; i +=1){  let c = x[i][0];  let d;  if (i+1 < x.length){  d = x[i+1][0];  }else {d = null}    if( c != d){  rs[j] = x[i];  j++  }  }  return rs;  }  function countChar(a,b){  var x = 0;  for(let i = 0; i < a.length; i+=1){  if (a[i] == b){  x += 1;  }  }  return x;  }  console.log(countBs("BBC"));  // → 2  console.log(countChar("kakkerlak", "k"));  // → 4 |