2. 변수, 자료형

2-1. 변수 및 상수

2-2. 기본 자료형

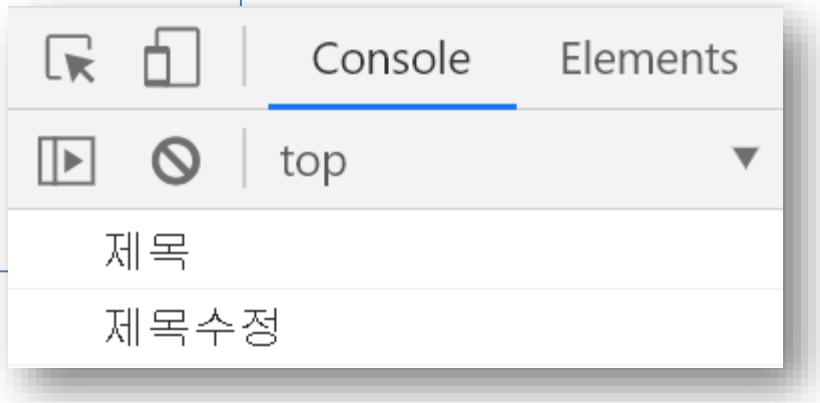
2-3. 참조 자료형

■ Variable (변수)

02-01-변수.html

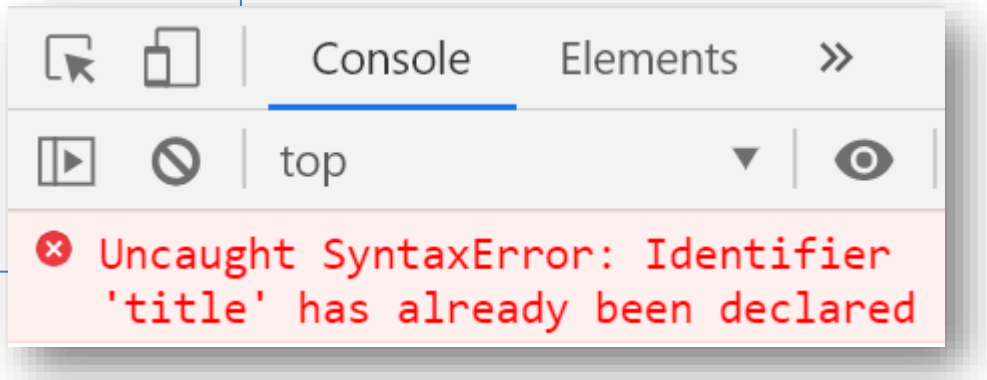
- ECMAScript 6 부터 추가된 문법
- 예전부터 사용되어오던 `var` 와 비슷한 기능

```
let title = '제목';
console.log(title);

title = '제목수정';
console.log(title);
```



- 중복선언 불가

```
let title = '제목';
console.log(title);

let title = '제목수정';
console.log(title);
```

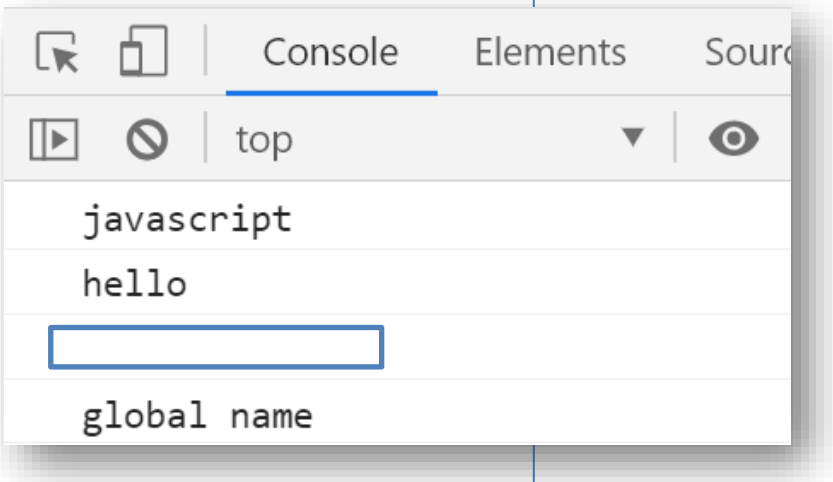


■ Variable (변수)

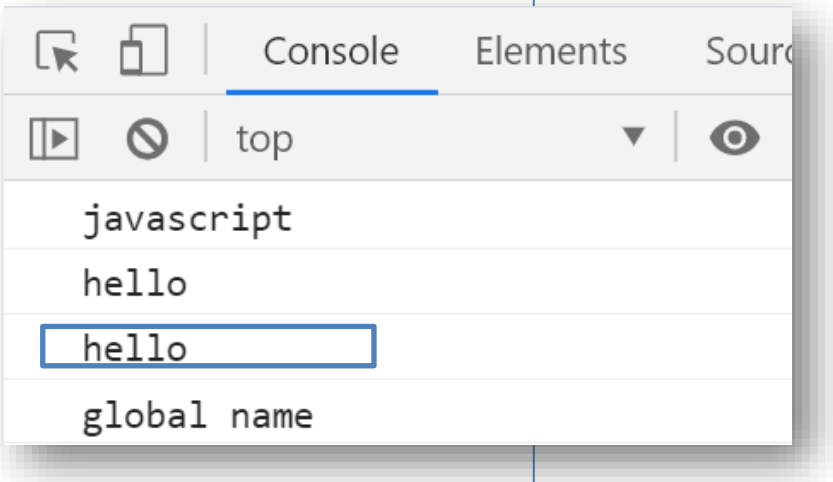
● 중괄호 사용 시 범위가 한정적 (지역변수)

02-02-지역변수.html

```
let globalScope = 'global name';
{
  let name = 'javascript';
  console.log(name);
  name = 'hello';
  console.log(name);
}
console.log(name);
console.log(globalScope);
```




```
let globalScope = 'global name';
{
  var name = 'javascript';
  console.log(name);
  name = 'hello';
  console.log(name);
}
console.log(name);
console.log(globalScope);
```



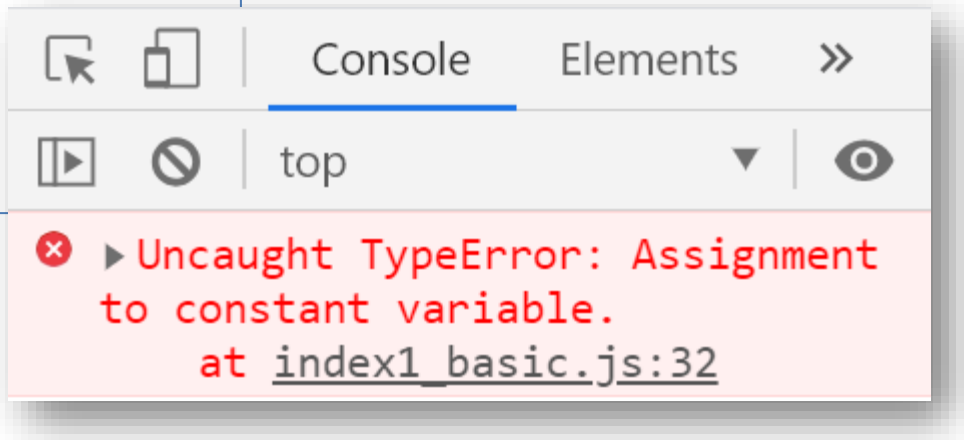
■ Constants (상수)

- ● `let` 변수와 사용법이 비슷하지만 입력값 수정 불가 (immutable)

  - 보안 / 멀티 스레드 환경에서 안전 / 실수 방지

02-03-상수.html

```
const daysInWeek = 7;
const maxNumber = 5;
const title = '제목';
title = '제목수정';
```



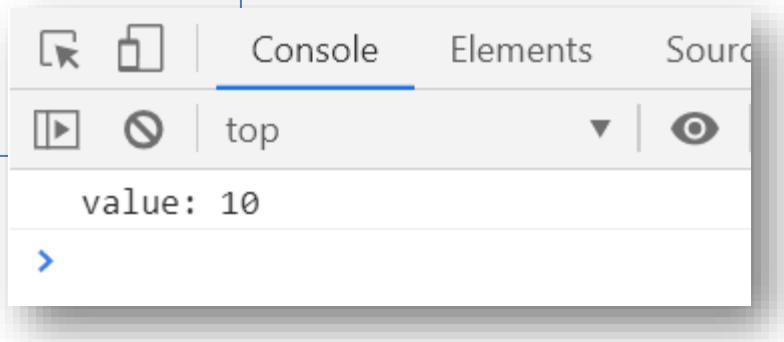
■ Hoisting

- 실제 선언 위치와 관계없이 코드의 위로 끌어올려서 선언해주는 것
- 값을 할당하는 것은 실제 위치에서 동작

02-04-hoisting.html

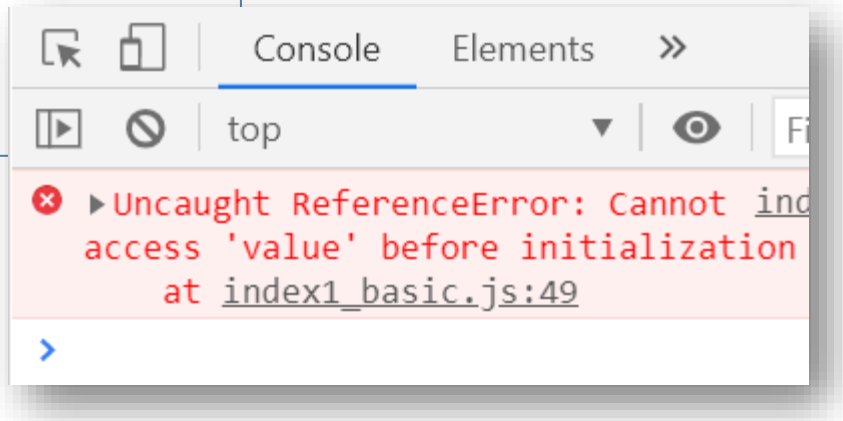
- var

```
value = 10;
console.log(value);
var value;
```



- let / const

```
value = 10;
console.log(value);
let value;
```

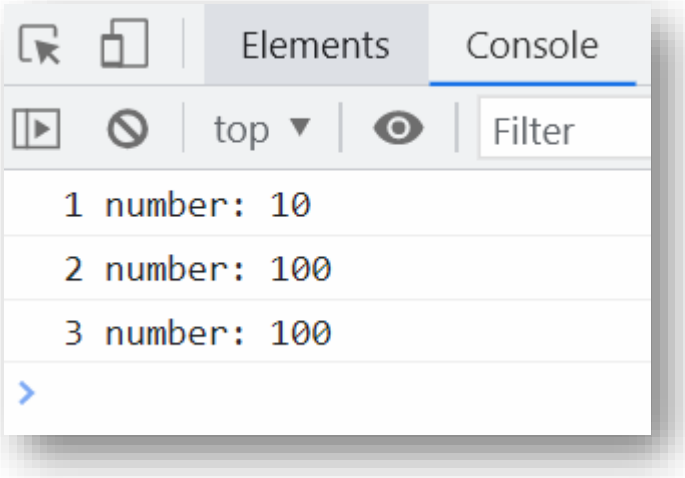


■ 연습문제 (02-연습문제1.html)

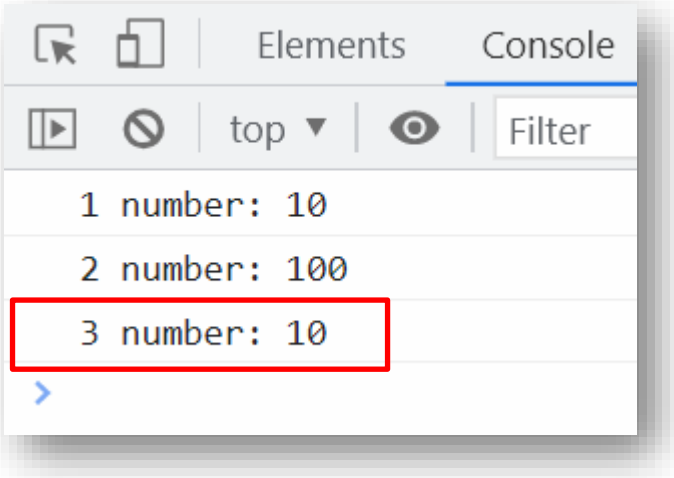
● 아래의 코드를 수정해서 결과와 같이 출력되도록 수정하기

```
var number = 10;
console.log(`1 number: ${number}`);
{
  var number = 100;
  console.log(`2 number: ${number}`);
}
console.log(`3 number: ${number}`);
```

수정 전 결과



수정 후 결과



■ Variable Type

- Primitive (기본) : 더 이상 나눠지지 않는 하나의 값 (Single item)
  - number, string, boolean, null, undefined

- Reference (참조) : Single item 들을 하나의 단위로 관리
  - { }, [ ], class

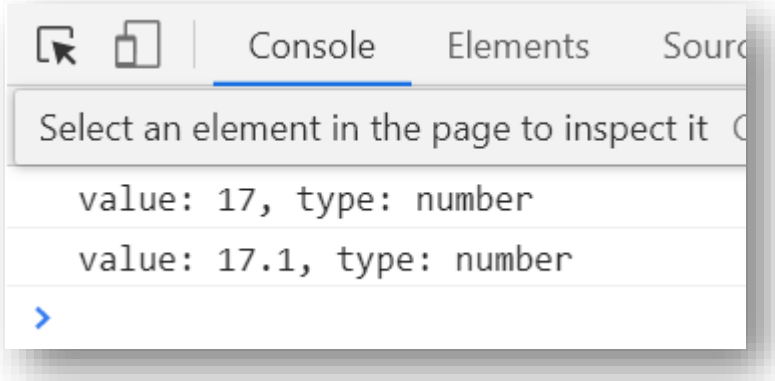
- Function (함수)
  - First-class Function
  - 함수를 다른 변수와 동일하게 다루는 것

■ Primitive

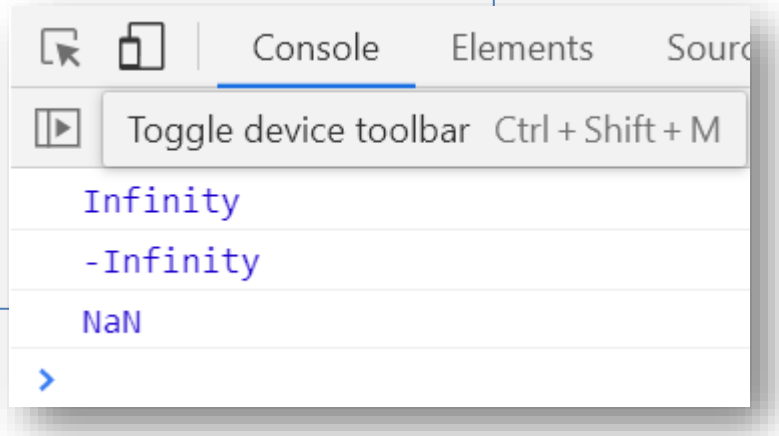
● number

02-05-number.html

```
const count = 17; // integer
const size = 17.1; // decimal number
console.log(`value: ${count}, type: ${typeof count}`);
console.log(`value: ${size}, type: ${typeof size}`);
```




```
const infinity = 1 / 0;
const negativeInfinity = -1 / 0;
const nan = 'not a number' / 2;
console.log(infinity);
console.log(negativeInfinity);
console.log(nan);
```

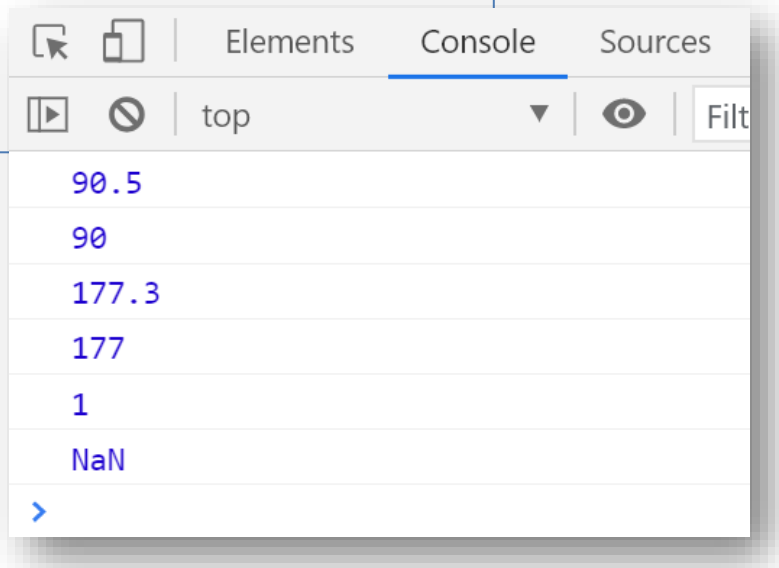


■ Primitive

● number

02-05-number.html

```
let score = 90.5;
console.log(Number(score));
console.log(parseInt(score));

let height = '177.3';
console.log(Number(height));
console.log(parseInt(height));

let bool = true;
console.log(Number(bool));
console.log(parseInt(bool));
```

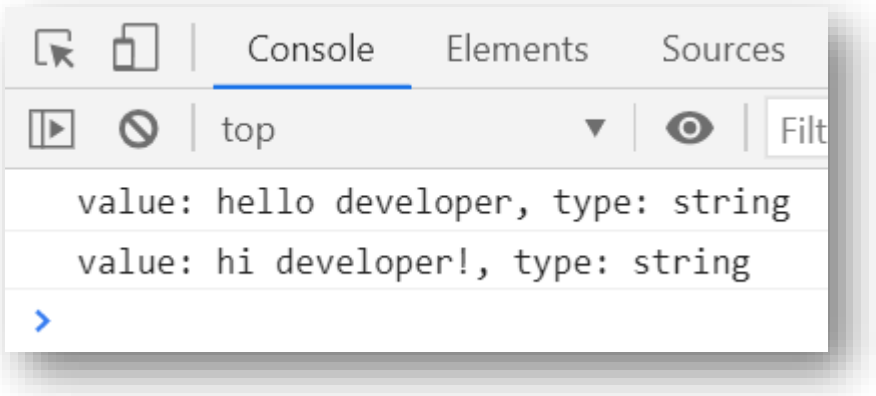


■ Primitive

● string

02-06-string.html

```
const char = 'c';
const username = 'developer';

const greeting = 'hello ' + username;
console.log(`value: ${greeting}, type: ${typeof greeting}`);

const template = `hi ${username}!`; // template literals
console.log(`value: ${template}, type: ${typeof template}`);
```



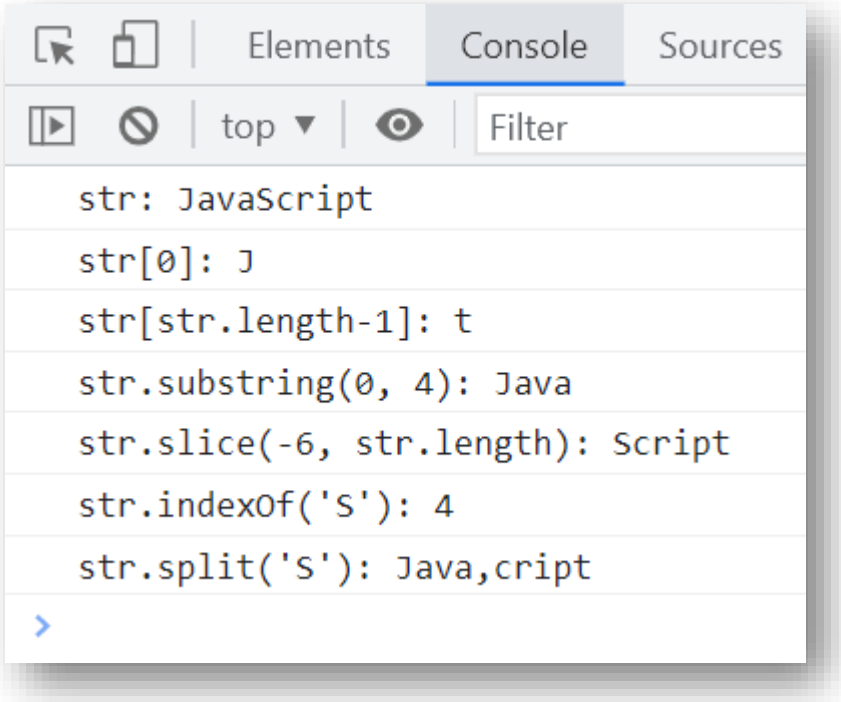

```
console.log('value: ' + template + ', type: ' + typeof template);
```

■ Primitive

● string (indexing / 함수)

02-06-string.html

```
const str = 'JavaScript';
console.log(`str: ${str}`)
console.log(`str[0]: ${str[0]}`)
console.log(`str[str.length-1]: ${str[str.length-1]}`)
console.log(`str.substring(0, 4): ${str.substring(0, 4)}`)
console.log(`str.slice(-6, str.length): ${str.slice(-6, str.length)}`)
console.log(`str.indexOf('S'): ${str.indexOf('S')}`)
console.log(`str.split('S'): ${str.split('S')}`)
```

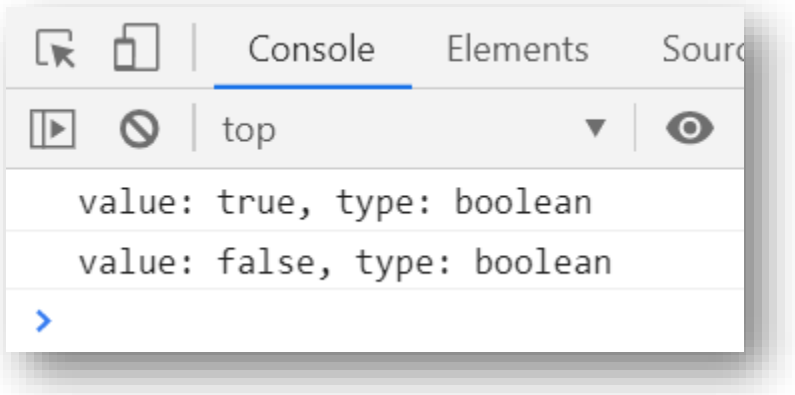


■ Primitive

● boolean

02-07-boolean.html

```
const canRead = true;
console.log(`value: ${canRead}, type: ${typeof canRead}`);

const test = 3 < 1;
console.log(`value: ${test}, type: ${typeof test}`);
```



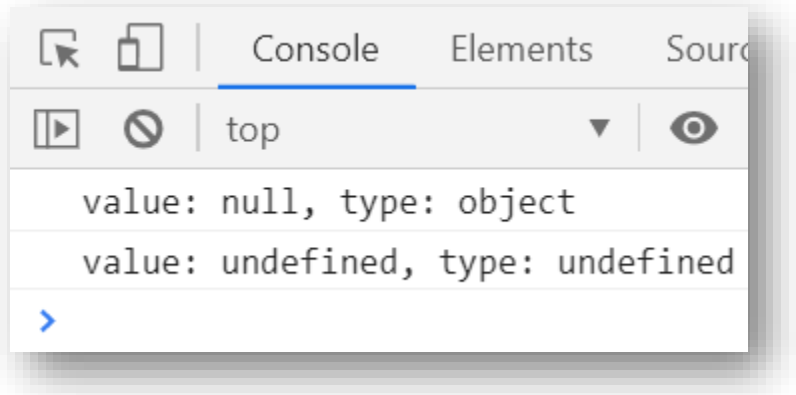
false : 0, null, undefind, NaN, ''
true : false가 아닌 값

■ Primitive

● null / undefined

02-08-nothing.html

```
let nothing = null;
console.log(`value: ${nothing}, type: ${typeof nothing}`);

let x = undefined; // let x;
console.log(`value: ${x}, type: ${typeof x}`);
```

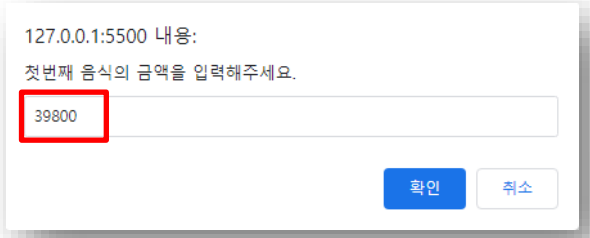


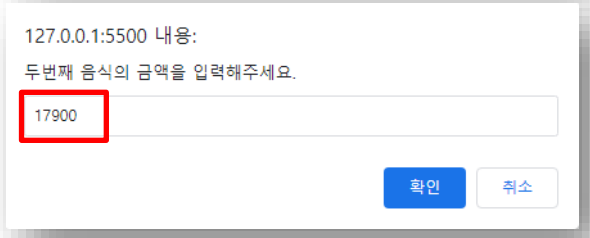
null : 값을 할당하지 않았음을 명시
undefined : 선언만 하고 값에 대해 언급하지 않음

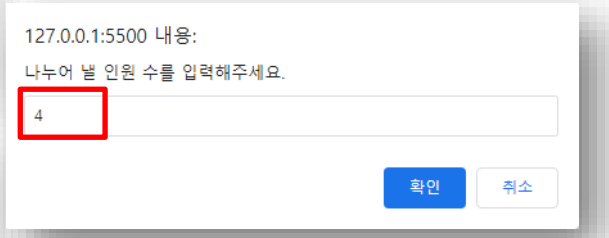
■ 연습문제 (02-연습문제2.html)

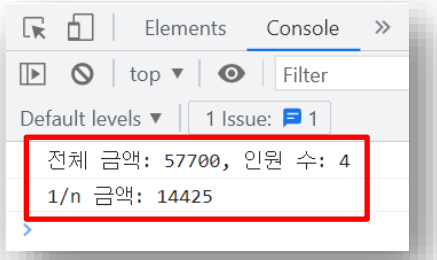
● 입력된 금액을 1/n 로 나누어 계산하기

```
let food1 = prompt('첫번째 음식의 금액을 입력해주세요.');
let food2 = prompt('두번째 음식의 금액을 입력해주세요.');
let cnt = prompt('나누어 낼 인원 수를 입력해주세요.');

let price = 0; // 전체 금액
let nPrice = 0; // 인원 수로 나눈 금액

/* 코드 */

console.log(`전체 금액: ${price}, 인원 수: ${cnt}`);
console.log(`1/n 금액: ${nPrice}`);
```









■ Reference

● object

02-09-reference.html

```
const user = { name: 'developer', age: 30 };
user.age = 29;
console.log(user);

const arr = [ 1, 2, 3 ];
arr[0] = 10;
console.log(arr);
```