# More Exercises: Data Types and Variables

Problems for exercise and homework for the "JS Fundamentals" Course @ SoftUni.
Submit your solutions in the SoftUni judge system at: https://judge.softuni.org/Contests/1269

## 1. Digits with Words

Write a **function** that receives a **digit** in the form of a **word** (as a **string)** and prints the **`digit`** (as a **number)**.

### Examples

| Input | Output |
|---|---|
| `'nine'` | `9` |
| `'two'` | `2` |
| `'zero'` | `0` |

### Hints

Use a **`switch`** case.

## 2. Prime Number Checker

Write a **function** to check if a number is **`prime`** (only divisible by itself and one).

The **input** comes as a single number argument.

The **output** should be the return value of your function. Return **`true`** for prime number and **`false`** otherwise.

### Examples

| Input | Output |
|---|---|
| `7` | `true` |
| `8` | `false` |
| `81` | `false` |

### Hints

You can find more information about prime numbers: https://en.wikipedia.org/wiki/Prime_number

## 3. Cone

Write a **function** to calculate a cone's **volume** and **total surface area** by given height and radius of the base.

The **input** comes as two number arguments. The first element is the cone's **`radius`** and the second is its **`height`**.

The **output** should be printed to the console on a **new line** for every result. The result should be formatted to the **fourth decimal point.**

## Examples

| Input | Output |
|---|---|
| 3,<br>5 | volume = 47.1239<br>area = 83.2298 |
| 3.3,<br>7.8 | volume = 88.9511<br>area = 122.0159 |

## Hints

You can use this online tool to check your results: http://www.calculatorsoup.com/calculators/geometry-solids/cone.php

# 4. Biggest of 3 Numbers

Write a **function** that finds the **biggest number**.

The **input** comes as 3 parameters.

The **output** is the **biggest** of the input numbers.

## Examples

| Input | Output |
|---|---|
| -2,<br>7,<br>3 | 7 |
| 130,<br>5,<br>99 | 130 |
| 43,<br>43.2,<br>43.1 | 43.2 |
| 2,<br>2,<br>2 | 2 |

# 5. Binary to Decimal

Write a **function** that reads an 8-bit binary number and converts it to a decimal.

The **input** comes as one string element, representing a binary number.

The **output** should be printed to the console.

## Examples

| Input | Output |
|---|---|
| 00001001 | 9 |
| 11110000 | 240 |

## 6. Chess Board

Write a **function** to print a chessboard of size **n X n**. See the example for more information.

The **input** comes as a single number argument **n**.

The **output** should be returned as a result of your function in the form of a string.

## Examples

| Input | Output |
|---|---|
| 3 | `<div class="chessboard">`<br>`  <div>`<br>`  <span class="black"></span>`<br>`  <span class="white"></span>`<br>`  <span class="black"></span>`<br>`  </div>`<br>`  <div>`<br>`  <span class="white"></span>`<br>`  <span class="black"></span>`<br>`  <span class="white"></span>`<br>`  </div>`<br>`  <div>`<br>`  <span class="black"></span>`<br>`  <span class="white"></span>`<br>`  <span class="black"></span>`<br>`  </div>`<br>`</div>` |

## 7. Triangle Area

Write a **function** that calculates a **triangle's area** by its 3 sides.

The **input** comes as three number arguments, representing one **side** of a triangle.

The **output** should be printed to the console.

## Examples

| Input | Output |
|---|---|
| 2,<br>3.5,<br>4 | 3.4994419197923547 |
| 3<br>5.5<br>4 | 5.854685623498498 |

## Hints

- Use Heron's formula to obtain the result.