# Lab: Data Types and Variables

Problems for exercise and homework for the [Python Fundamentals Course @SoftUni](https://softuni.bg/trainings/3368/python-fundamentals-may-2021).

Submit your solutions in the SoftUni judge system at <https://judge.softuni.bg/Contests/1721>.

## Concat Names

Write a program which reads two names and a delimiter. It should print the names joined by the delimiter.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| John  Smith  -> | John->Smith |
| Jan  White  <-> | Jan<->White |
| Linda  Terry  => | Linda=>Terry |

### Hints:

* Read the data:



* Print:



## Centuries to Minutes

Write a program which reads an integer number of **centuries** and converts it to **years**, **days**, **hours** and **minutes**.

century = int(input())  
  
var\_years = century \* 100  
var\_days = var\_years \* 365.2422  
var\_hours = int(var\_days) \* 24  
var\_minutes = var\_hours \* 60  
  
print(f"{century} centuries = {var\_years} years = {int(var\_days)} days = {var\_hours} hours = {var\_minutes} minutes")

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1 | 1 centuries = 100 years = 36524 days = 876576 hours = 52594560 minutes |
| 5 | 5 centuries = 500 years = 182621 days = 4382904 hours = 262974240 minutes |

### Hints

* Assume that one year has 365.2422 days at average ([the Tropical year](https://en.wikipedia.org/wiki/Tropical_year)).

## Special Numbers

A number is **special** when the **sum of its digits is 5, 7 or 11**. Write a program which reads an integer n. Then, for all numbers in the range **1…n**, prints the number and if it is special or not (True / False).

### Examples

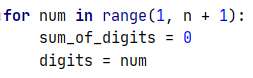
|  |  |
| --- | --- |
| **Input** | **Output** |
| 15 | 1 -> False  2 -> False  3 -> False  4 -> False  5 -> True  6 -> False  7 -> True  8 -> False  9 -> False  10 -> False  11 -> False  12 -> False  13 -> False  14 -> True  15 -> False |

### Hints

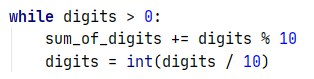
* First, we read the data:



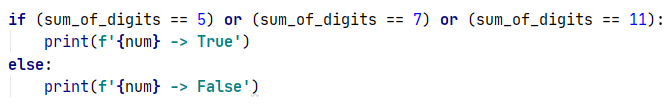
* Iterate from 1 to n (we write n+1, because the for loop in Python iterates from 1 to n-1 by default):



* To calculate the sum of digits of given number num, you might repeat the following: sum the last digit   
  (num % 10) and remove it (sum = sum / 10) until num reaches 0.



* Finally, print the result:



var\_num = int(input())  
is\_special = None  
  
for i in range(1, var\_num + 1):  
 sum\_of\_digits = 0  
 number\_sequence = i  
 # To calculate the sum of digits, repeat the following: sum the last digit  
 # (num % 10) and remove it (sum = sum / 10) until num reaches 0.  
  
 while i > 0:  
 sum\_of\_digits += i % 10  
 i = int(i / 10)  
 if sum\_of\_digits == 5 or sum\_of\_digits == 7 or sum\_of\_digits == 11:  
 is\_special = True  
 else:  
 is\_special = False  
  
 print(f"{number\_sequence} -> {is\_special}")

my\_number = int(input())  
is\_true = None  
for num in range(1, my\_number + 1):  
 num\_as\_str = str(num)  
 result = 0  
 for char in num\_as\_str:  
 result += int(char)  
 if result == 5 or result == 7 or result == 11:  
 is\_true = True  
 print(f"{num} -> {is\_true}")  
 else:  
 is\_true = False  
 print(f"{num} -> {is\_true}")

## Convert Meters to Kilometers

You will be given an integer which represents a distance in meters. Write a program which converts meters to kilometers formatted to the second decimal point.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 1852 | 1.85 |
| 798 | 0.80 |

### Hints

* First, we read the input number:



* Then, we convert it to km:



* Finally, print the number formatted to the second decimal point:



## Pounds to Dollars

Write a program which converts British pounds to US dollars formatted to the 3rd decimal point.

1 British Pound = 1.31 Dollars.

### Examples

|  |  |
| --- | --- |
| **Input** | **Output** |
| 80 | 104.800 |
| 39 | 51.090 |

### Hints

* Read the pounds (int):



* Convert them to dollars:



* Finally, print the number formatted to the third decimal point:

