
Simple types and strings (1)

P56724_en

You have to program several functions. In each case, few lines of code are enough.

1. Write a function *drawH(n)* that given an odd integer $n \geq 3$ prints a letter H of size n formed with symbol *. Follow the pattern of the example below.
2. Write a function *area_circle(r)* that given a float number $r \geq 0$ returns, rounded to the hundredth, the area of the circle of radius r . Use the `pi` constant defined in the `math` module.
3. Write a function *slow_pi_aprox(n)* that given a non negative integer n computes $4 \sum_{k=0}^n \frac{(-1)^k}{2k+1}$ rounded to the hundredth.
4. Write a function *is_univariate_number(n)* that given a non negative integer returns a boolean pointing out whether n is represented using only one digit. For instance 22222 is univariate but 22322 is not.
5. Write a boolean function *is_univariate_word(s)* that given an string s returns `True` if and only if s is formed using only one letter. For instance word `xxXxXXx` is univariate but `xxXxy` is not. We assume s is non empty and all characters of s are letters.

Scoring

Every function counts 20 points.

Sample session

```
>>> drawH(5)
*  *
*  *
*****
*  *
*  *
>>> area_circle(2.5)
19.63
>>> slow_pi_aprox(50)
3.16
>>> is_univariate_number(22322)
False
>>> is_univariate_word("xxXxXXx")
True
```

Problem information

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