Python School

May 25 2017

Tutorial breakout session

Problem:

Create a function to test whether a passed *string* variable is a palindrome.

Solutions:

In [1]:

```
test_name = "Hannah"
```

Standard solution using iteration (for loop)

In [2]:

```
def palindrome(name_in):
    """Test whether a string is a palindrome"""

    name = name_in.lower()

    name_len = len(name)//2

    for i in range(name_len):
        if name[i] != name[-(i+1)]:
            return False

    return True
```

In [3]:

```
palindrome(test_name)
```

Out[3]:

```
True
```

Alternative solution using recursion - this will only work for strings of limited length with default settings. To increase the recursion depth you will need to increase the stack size.

In [4]:

```
def palindrome_r(name_in):

    name = name_in.lower()

    if len(name) > 1:
        if name[0] == name[-1]:
            return palindrome(name[1:-1])
        else:
            return False
    else:
        return True
```

In [5]:

```
palindrome_r(test_name)
```

Out[5]:

```
True
```

That's all folks!