CS 3100 – Models of Computation – Fall 2011

Assignment 1 Solution

Palindrome.py Write a Python function that accepts a string `str` as argument, and makes a palindrome out of it by mirroring `str` and appending the mirrored string at the end of `str`. Test it on four different inputs.

Your submission will look like this:

```
def Palindrome(s):
    return(s+s[::-1])

def run_Palindrome():
    Palindrome("abca13")
    Palindrome("(()()")
    Palindrome("")
    Palindrome("z)

if __name__ == "__main__":
    run_Palindrome()
```

Prefix Closure:

```
def prefixclosure(s):
    return { s[0:i:] for i in range(len(s)+1) }

def run_prefixclosure():
    prefixclosure(..your input 1..)
    prefixclosure(..your input 2..)
    prefixclosure(..your input 3..)
    prefixclosure(..your input 4..)

if __name__ == "__main__":
    run_prefixclosure()
```

FacList.py Write a function that, given N, generates the list of factorials of all numbers from 1 to N. For example, given 5, your function must return

Your submission will look like this:

```
def fac(N):
    return(reduce(lambda x,y: x*y, [i for i in range(1,N+1)]))

def facList(N):
    return [fac(j) for j in range(1,N+1)]
```