

22C:16 Quiz 7
Date: Mar 20th, 2012

1. **[5 points]** What does each of the following expression evaluate to? Assume that `isPrime` is a boolean function that takes one argument and returns `True` if that argument is a *prime number*; otherwise the function returns `False`. Assume that `concat` is a function that takes two arguments `a` and `b` and returns `a + b`.

(a) `map(str, range(0,10,3))` **Ans.** `['0', '3', '6', '9']`

(b) `len(filter(isPrime, range(20)))` **Ans.** `8`

(c) `reduce(concat, map(str, range(1, 10, 2)))` **Ans.** `'13579'`

(d) `reduce(concat, range(1, 10, 2))` **Ans.** `25`

(e) `map(range, range(5))` **Ans.** `[[], [0], [0,1], [0,1,2], [0,1,2,3]]`

Turn over for Problem 2.

2. [5 points] Here is a partially completed function called `maxPairSum` that takes a list of numbers as a parameter and returns the pair of numbers in consecutive positions that add up to the largest value. For example, if the given list is `[3, -1, 4, 2, 5, -1, 11, -8]` then the function would return the list `[-1, 11]`. In the following function, the condition of the if-statement is missing and one line in the body of the if-statement is missing. Your task is to supply these missing code fragments.

```
import sys
def maxPairSum(L):
    maxSum = -1*sys.maxint
    maxIndex = -1

    for i in range(len(L)-1):

        if (L[i] + L[i+1]) > maxSum:

            maxSum = L[i] + L[i+1]}
            maxIndex = i

    return L[maxIndex:maxIndex+2]
```
