

Python for Math and Stat Fall 2022

Exam 2 Version A

Assume that all necessary packages have been imported.

1. (20 pts) For the following 4 problems, write down what each code block would display if executed in a Jupyter cell. If the code generates an error, write Error.

(a) `list(zip(range(9, 1, -2), range(4)))`

(b) `m, n = 2, 8`
`f' m+n {m*n}'`

(c) `for i in range(8, 10):`
 `for j in range(5, 7):`
 `print(i, j, end=' ')`

(d) `def func(n):`
 `print(n, end=' ')`
 `if n < 10:`
 `return n`
 `else:`
 `return func(n//10)`

`func(203)`

Solution:

(a) `[(9, 0), (7, 1), (5, 2), (3, 3)]`

(b) `' m+n 16'`

(c) `8 5 8 6 9 5 9 6`

(d) `203 20 2`
`2`

2. (10 pts) You wish to plot the average daily temperature over several days. Write a function `avgtemp(start, changes)` that takes a starting temperature and a list of changes in degrees over the next few days, and displays the daily temperatures as a scatter plot. The function does not return a value.

For example, `avgtemp(20, [3, 1, -5, -7, 4])` would show an initial temperature of 20, then an increase of 3, then an increase of 1, then a decrease of 5, etc., as shown below.

4.