Name, Surname. :

ACM 114 Introduction to Computer Science and Programming
2017-2018 SPRING MIDTERM II

Q-1) Write a program which repeatedly reads numbers until the user enters "done". Once "done" is entered, print out the total of the numbers.

```
Enter a number: 4

Enter a number: 5

Enter a number: bad data

Invalid input

Enter a number: 7

Enter a number: done

16
```

Q-2) Write a function `checkends(s)`, which takes in a string `s` and returns `True` if the first character in `s` is the same as the last character in `s`. It returns `False` otherwise
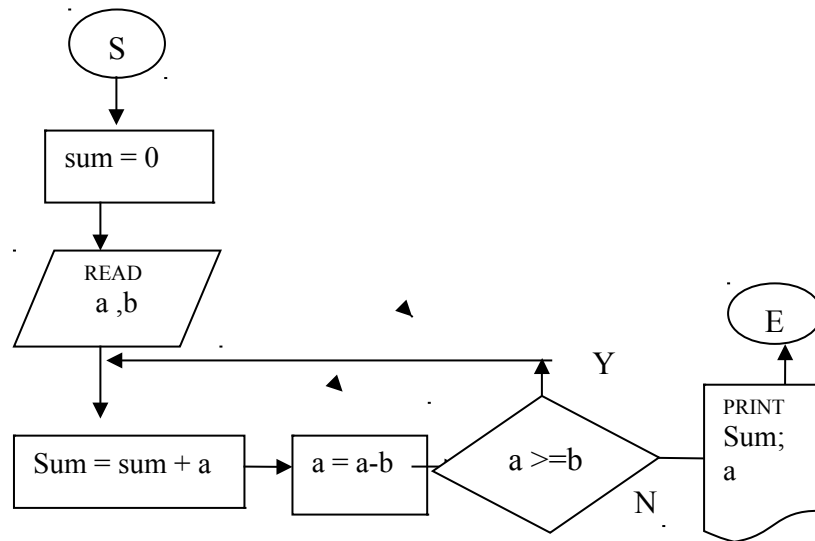
```
checkends("no match")
False
checkends('hah! a match')
True
checkends('q')
True
```

Q-3) write a function `add_2` with the following signature:
```
def add_2(L, M):
```

such that `add_2` accepts two lists and returns a single list that is an element-by-element sum of the two arguments.(You might assume that the lists have the same length)

```
print(add_2([10, 11, 12], [20, 25, 30]))
[30, 36, 42]
```

Q-4) Given the flow chart below, write the corresponding python code.

Flowchart:
- S (start)
- sum = 0
- READ a, b
- Sum = sum + a
- a = a-b
- a >= b — Y / N
- PRINT Sum; a
- E (end)

Q-5) Write a Ptyhon function which calculates the value of f(x) for a given x. The function f(x) is defined as below.

$$F(x) = \begin{cases} x^2 & -2 <= x < 1 \\ 2 & 1 <= x < 5 \\ -2x + 10 & x >= 5 \end{cases}$$

Each question is 20 points.
Good Luck.