

You will find a private GitHub repo called `<github-username>-hw` where you will submit all your homework assignments. Clone this repo and create a `hw5` directory inside. Add this directory to the repo using `$ git add hw5`. All your code should appear in a file called `hw5.py` that lives inside the `hw5` directory. Make sure to add `hw5.py` to the repo and commit your changes with `$ git commit -a -m "good log message"`.

Question 1 (5 points). Write a function called `rev` that recursively reverses a list.

```
>>> rev([])
[]
>>> rev(list(range(10)))
[9, 8, 7, 6, 5, 4, 3, 2, 1, 0]
```

Question 2 (5 points). Write a function called `pal` that accepts a string and returns `True` if and only if the string is a palindrome. Your function should use recursion. Hint: think about comparing the first and last characters and recursing inwards

```
>>> pal("racecar")
True
>>> pal("amanaplanacanalpanama")
True
>>> pal("foobar")
False
```

Question 3 (5 points (Downey)). Write a recursive function called `flatten` that returns a simple list containing all the values in a nested list:

```
>>> flatten([2,9,[2,1,13,2],8,[2,6]])
[2,9,2,1,13,2,8,2,6]
>>> flatten([[9,[7,1,13,2],8],[7,6]])
[9,7,1,13,2,8,7,6]
>>> flatten([[9,[7,1,13,2],8],[2,6]])
[9,7,1,13,2,8,2,6]
>>> flatten([["this",["a",["thing"],"a"],"is"],["a","easy"]])
["this","a","thing","a","is","a","easy"]
```