

Assignment #5

Inspecting Sequences

Write definitions for each of the following Python functions, and for each function, include a clear and concise comment to describe its purpose. Use *only* the Python topics covered so far in class.

1. TotalEvens(integers)

The sum of all the even items in the integer list 'integers', or 0 if there are none

```
TotalEvens( [ 1, 2, 3, 4, 5 ] ) ⇒ 6
TotalEvens( [ 1, 3, 5, 7, 9 ] ) ⇒ 0
TotalEvens( [ 0, -2, -4, 8 ] ) ⇒ 2
TotalEvens( [ ] ) ⇒ 0
```

2. PositionFirst(x, s)

The position of the first occurrence of item 'x' in sequence 's', or None if there is none; note that positions start at 0

```
PositionFirst( 2, [ 2, 5, 2, 3, 5 ] ) ⇒ 0
PositionFirst( 5, [ 2, 5, 2, 3, 5 ] ) ⇒ 1
PositionFirst( 4, [ 2, 5, 2, 3, 5 ] ) ⇒ None
PositionFirst( 2, [ ] ) ⇒ None
PositionFirst( "d", "abcdefg-abcdefg" ) ⇒ 3
```

3. PositionLast(x, s)

The position of the last occurrence of item 'x' in sequence 's', or None if there is none; note that positions start at 0

```
PositionLast( 2, [ 2, 5, 2, 3, 5 ] ) ⇒ 2
PositionLast( 5, [ 2, 5, 2, 3, 5 ] ) ⇒ 4
PositionLast( 4, [ 2, 5, 2, 3, 5 ] ) ⇒ None
PositionLast( 2, [ ] ) ⇒ None
PositionLast( "d", "abcdefg-abcdefg" ) ⇒ 11
```

4. AllDifferent(s)

Are all items in sequence 's' different from one another?

```
AllDifferent( "abcdefg" ) ⇒ True
AllDifferent( [ 2, 5, 2 ] ) ⇒ False
AllDifferent( "a" ) ⇒ True
AllDifferent( [ ] ) ⇒ True (since no two items are equal)
```

Program Submission:

Store the function definitions in a file named 'a05.py', and turn it in for grading by typing:

```
submit-cs1117 a05.py
```

Due Date: Fri Oct 16, 11:00am