KIX3004: PYTHON PROGRAMMING **SEMESTER 1, 2018/2019**

Test 2 (Time: 1 hour) Marks: 10%

INSTRUCTIONS: Create your files with your **matric number**. Eg. KIE160001Q1.py, KIE160001Q2.py

QUESTION 1

Given below list `A`

```
A = [1, -2, 3.5+4j, 4.5, 5, 4-3.5j, 3.5, 3, -5.5]
```

using `map`, `filter`, and `reduce`, write a program to

1. Create a new list which contains only floating point numbers, and print that list.
2. Create a new list which contains only complex numbers (which has imaginary part), and print that list.
3. Find the total sum of non-negative integer numbers in list `A`, and print the sum.
4. Find the total sum of magnitude for all numbers in list `A`, and the print the sum.
5. Find the minimum and maximum values, in term of magnitude, and print the values.

QUESTION 2

Write a program to find the sum of the first n positive odd numbers, s_{odd}, for example:

$$s_{odd}(3) = 1 + 3 + 5 = 9$$

Using both of below techniques:

1. Iterations, and
2. Recursion