# Intro. to CS 2021 Spring - assignment #1
# Python Programming

**Objective**: Implement **two** functions (sum_of_prime_factors, even_occured_number) to exercise python grammar

1. Function 1: sum up the prime factors of a given integer *n* (0 < n < 1e+12).
   Do prime factorization, i.e. 124 = 31 * 2 * 2, therefore 35 is sum of the prime factors.

   Example:
   ```
   input: 124
   output: 35
   ```

2. Function 2: find the single number which occurs even times in the given list.

   Example
   ```
   input: [2, 2, 3, 3, 3, 4, 4, 4]
   output: 2
   ```

   e.g., The number 2 occurs 2 times which is an even number, while 3 and 4 occur 3 times which is odd number. The input has only one number which occurs even times, 0 < len(input_list) < 1e+6

**Grading Policy**
Testcases for scoring are not disclosed.
- 50pt : Function 1 (5 testcases, each 10 points)
- 50pt : Function 2 (5 testcases, each 10 points)

**Deliverables**
- You should use the baseline codes `a1.py`, `main.py` and sample input files `sample_input_1.txt`,`sample_input_2.txt`.
- You should submit the code naming as `a1_your_student_id.py` on ICampus (e.g,, `a1_202131xxxx.py`)
- It is not allowed to modify `main.py` file, so you don't need to submit it.

How to Run
- Type `python3 a1.py` (or `python a1.py` if your default python is python3) in the terminal will execute the sample inputs.
- Type `python3 main.py` in the terminal will execute the program which prints the result of the sample input files `sample_input_(num).txt`.

```
#1
9
46
1101
6685
2247683471
#2
2
52
545
3987
99453
```

**Comments**
- If you are wondering about `(n: int) -> int` statement in the baseline code `a1.py`, see this "type hint" doc: https://www.python.org/dev/peps/pep-0483/
- If you run `'python3 main.py'`, the result should be same with right images.

**Due : April 2 23:59:00**