CIT 101 Programming Fundamentals
Assignment #6 – 100 points, due August 26

Please read all instructions carefully before submission. Failure to follow guidelines will result in loss of points. Ask for clarification if something is unclear.

Grading Criteria:

Does the code run? – 50 points

- No more than 20 points will be given if the code doesn't run.

Correctness of code – 20 points

- Does the program produce the correct prompts to the user?
- Does the program calculate the correct values?
- Does the program display the results correctly?

Clarity of code – 10 points

- Does the program use good names for variables?
- Is the code spaced so that it is easy to read? Use blank lines as appropriate.

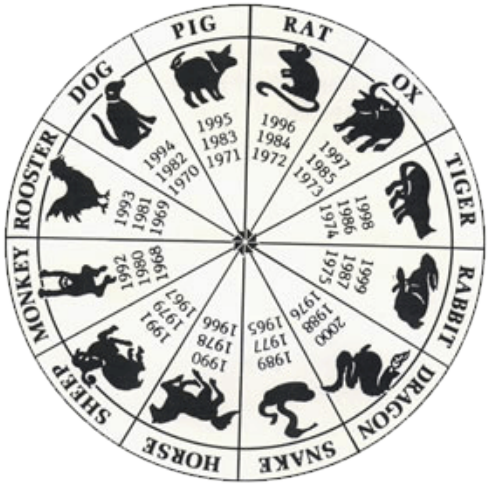
Incorrect filename or incorrect submission – 10 points

- Is the program named **`chinese_zodiac.py`**?
- Is it submitted to Canvas in the right place?

Requirements:

Given a poorly written Python script, **`poor_chinese_zodiac.py`**, that determines the Chinese Zodiac sign for a year input by the user, write a well-structured Python script, **`chinese_zodiac.py`**, that uses functions and a list to get the same result.

The Chinese Zodiac is based on a 12-year cycle, with each year represented by an animal – monkey, rooster, dog, pig, rat, ox, tiger, rabbit, dragon, snake, horse, sheep.



$$year\ \%\ 12 = \begin{cases} 0: monkey \\ 1: rooster \\ 2: dog \\ 3: pig \\ 4: rat \\ 5: ox \\ 6: tiger \\ 7: rabbit \\ 8: dragon \\ 9: snake \\ 10: horse \\ 11: sheep \end{cases}$$

Note that year % 12 determines the Zodiac sign. For example, 1900 is the year of the rat because 1900 % 12 = 4.

Below is the code for **poor_chinese_zodiac.py**.

```
# Poor Chinese Zodiac Calculator

year = int(input('Enter a year: '))

animal_year = year % 12

if animal_year == 0:
    print(year, 'is the year of the monkey')
elif animal_year == 1:
    print(year, 'is the year of the rooster')
elif animal_year == 2:
    print(year, 'is the year of the dog')
elif animal_year == 3:
    print(year, 'is the year of the pig')
elif animal_year == 4:
    print(year, 'is the year of the rat')
elif animal_year == 5:
    print(year, 'is the year of the ox')
elif animal_year == 6:
    print(year, 'is the year of the tiger')
elif animal_year == 7:
    print(year, 'is the year of the rabbit')
elif animal_year == 8:
    print(year, 'is the year of the dragon')
elif animal_year == 9:
    print(year, 'is the year of the snake')
elif animal_year == 10:
    print(year, 'is the year of the horse')
else:
    print(year, 'is the year of the sheep')
```

Your job is to restructure the code. Here are the requirements for restructuring:

- There should be a **main** function, a **get_input** function, and a **print_zodiac_animal** function.
- The **main** function should get the user's input, **year**, from **get_input**.
- The **main** function should send **year** to **print_zodiac_animal**.
- Use a list of animals in the **print_zodiac_animal** function and only one print statement.

  ```
  signs = ['monkey', 'rooster', 'dog', 'pig', \
        'rat', 'ox', 'tiger', 'rabbit', \
        'dragon', 'snake', 'horse', 'sheep']
  ```

  You can determine which element of **signs** you want by calculating the index as **animal_year = year % 12**.

SampleOutput:

```
>>> ========== RESTART ==========
>>>
Enter a year: 2015
2015 is the year of the sheep
>>> ========== RESTART ==========
>>>
Enter a year: 2016
2016 is the year of the monkey
>>>
```