MA1008 Introduction to Computational Thinking
Week 6 Tutorial: Strings

This tutorial gets you familiar with strings and operations on strings.

You should discuss each tutorial in small groups, and then your tutor will ask some of you to discuss your solution in class. There are more questions here than can be covered in the limited class time. **Attempt the first four questions in class** within the first hour. You should attempt **the rest at your own time**, in order to get familiar with the subject matter.

1. Given the string "`Introduction to Computational Thinking`", write an expression to
   i. print the first character
   ii. print the last character, assuming you don't know the string length
   iii. print the last character using `len()`
   iv. print the first word
   v. print the 4th to 14th characters.
   vi. print the 4th to 14th characters in the reverse order
   vii. print every alternate character starting from the second

2. Study the Python methods associated with string, and write down the expressions for doing the following, given the string "`it's a beautiful day.`" (Not all functions have been covered in class.)
   i. Capitalize the first word
   ii. Capitalize each word
   iii. Convert the whole string to upper case
   iv. Remove all the spaces
   v. Count the number of a specific character in the string

3. Write down the output of the following statements. Mark the spaces with a □.

```
for fahr in range (32, 200, 50):
    cels = (fahr-32)*5/9
    print("{:>4.0f} Fahrenheit = {:<6.2f} Celsius".format(fahr, cels))
```

4. Given the assignment

```
S = "I am testing my program"
```

   What is the outcome of the following statements?
   i. `S[0] = "J"`
   ii. `print(S)`
   iii. `print(S[::3])`
   iv. `print(S[12:4:-1])`

5. What are printed by the following expressions:
   i. `print("Nanyang"*3)`
   ii. `print("Nanyang"*3.0)`
   iii. `print("Nanyang"*-3)`
   iv. `print("Nanyang" + "Technological" + "University")`
   v. `print("Nanyang" - "N")`

6. Write down what is printed by the code below once you give the input (use your own input).

```
string = input("Enter a string: ")
y = 0
for c in string:
   print(y, c)
   y += 1
```

7. Without using division, write one (yes, one only) statement that would store the last digit of an integer as an integer. For example, the statement should store the integer 5 given the integer 12345.