

Practice Session 2

List, Dictionary, Tuples and Set

Question 1

1. Create a List named **pi** containing the integers : 3, 1, 4, 1, 5 in this order.
2. Display the length of this list.
3. Add the integer 9 at the end of the list
4. Using list slicing, grab the following
 - a. [1 , 1]
 - b. [3, 1, 4]
 - c. [3, 4, 5]
 - d. [5, 1, 4]

Question 2

Assume the following nested list : (You can copy paste it in your Jupyter Notebook file)

```
lst = [1,2, ['a', 'b '], [5, [10, 20, ['hello'] ], 23, 11], 1, 7]
```

Grab the following from the list:

- a. 7
- b. 23
- c. ['a', 'b ']
- d. 'hello'

Question 3

The following table represents the years when a national team won the Men's Soccer World Cup.

Team	Champion Year
Brazil	1958, 1962, 1970, 1994, 2002
Germany	1954, 1974, 1990, 2014
Italy	1934, 1938, 1982, 2006
Argentina	1978, 1986
France	1998, 2018
England	1966
Spain	2010
Uruguay	1930, 1950

1. Using the country as key and the year as values, create a **single** dictionary representing this table. Call this dictionary **mWorldCup**.

2. Using this dictionary:

- Display the year(s) when England won the World Cup
- Display the year(s) when Italy won the World Cup
- Display the first year when Brazil won the World Cup
- Count and Display how many times France won the World Cup (Don't just type '2')
- Display the last year when Germany won the World Cup.

3. We now want to group those teams with respect of their continent (Europe and South America)

Create a **Nested Dictionary** with the continent as the keys. You should still have the country and years as part of the values. Call this new dictionary **mWC_Continent**.

4. Using this new dictionary:

- Display all the South American winners and their respective years
- Display the year(s) when Spain won the World Cup
- Display the first year when Argentina won the World Cup
- Create a list called **UruguayYears** that contain all the years Uruguay won the World Cup

Question 4

The following table represents the years when a national team won the Women's Soccer World Cup.

Team	Champion Year
United States	1991, 1999, 2015, 2019
Germany	2003, 2007
Norway	1995
Japan	2011

1. Create a tuple called **WUSA** containing all the years the United States won the World Cup.
2. Using this tuple:
 - a. Display the first year the United States won the World Cup.
 - b. Display the first 3 years the United States won the World Cup.
3. The following list contain all the World Cup winner in chronological order:
['United States', 'Norway', 'United States', 'Germany', 'Germany', 'Japan', 'United States', 'United States']
Using this list, create a set called **WWC_Winner** containing all the World Cup winner. Each country should only appear once.
4. Assume the United States wins the next World Cup. Can you add it to this set? If Yes, how?
5. Assume Ghana wins the next World Cup. Can you add it to this set? If Yes, how?