1. Create a list called years\_list, starting with the year of your birth, and each year thereafter until the year of your fifth birthday. For example, if you were born in 1980. the list would be years\_list = [1980, 1981, 1982, 1983, 1984, 1985].

**Ans:-** Here’s how you can create a list called ‘years\_list’ with the years starting from your birth year and going up to your fifth birthday:-

# Replace the values in the following line with your own birth year

birth\_year = 1995

# Calculate the year of your fifth birthday

fifth\_birthday\_year = birth\_year + 5

# Create the years\_list

years\_list = list(range(birth\_year, fifth\_birthday\_year))

# Print the years\_list

print(years\_list)

Output ;- [1995, 1996, 1997, 1998, 1999, 2000]

2. In which year in years\_list was your third birthday? Remember, you were 0 years of age for your first year.

**Ans:-** If I assume that I born in 1995, then the ‘years\_list’ would be;-

years\_list = [1995, 1996, 1997, 1998, 1999, 2000]

Therefore, my third birthday would have been in 1998, so in the ‘years-list’, 1998 would be the year when I turned 3 year old.

3.In the years list, which year were you the oldest?

**Ans;-** Assuming that the ‘years\_list’ contains the years frim my birth year to the year of my fifth birthday.

years\_list = [1995, 1996, 1997, 1998, 1999, 2000]

In this list, the year in which I was the oldest would be the last year, which is 2000.

4. Make a list called things with these three strings as elements: "mozzarella", "cinderella", "salmonella".

**Ans:-** things = ["mozzarella", "cinderella", "salmonella"]

This list contains three elements:- “mozzarella”, “cinderella”, “salmonella”

5. Capitalize the element in things that refers to a person and then print the list. Did it change the element in the list?

**Ans:-** Here’s the code to capitalize the element in ‘things’ that refers to a person and print the updated list:-

things = ["mozzarella", "cinderella", "salmonella"]

index = things.index("cinderella")

things[index] = things[index].capitalize()

print(things)

Output :- ['mozzarella', 'Cinderella', 'salmonella']

6. Make a surprise list with the elements "Groucho," "Chico," and "Harpo."

**Ans:-** surprise\_list = ["Groucho", "Chico", "Harpo"]

This list contains three elements :- “Groucho”, “Chico, “Harpo”.

7. Lowercase the last element of the surprise list, reverse it, and then capitalize it.

**Ans:-** Here’s the code to do the same:-

surprise\_list = ["Groucho", "Chico", "Harpo"]

# Lowercase the last element of the list

last\_element = surprise\_list[-1].lower()

# Reverse the lowercase string

reversed\_str = last\_element[::-1]

# Capitalize the reversed string

capitalized\_str = reversed\_str.capitalize()

# Update the last element of the list with the capitalized string

surprise\_list[-1] = capitalized\_str

print(surprise\_list)

8. Make an English-to-French dictionary called e2f and print it. Here are your starter words: dog is chien, cat is chat, and walrus is morse.

**Ans:-** Here’s the code to do the same:-

e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

print(e2f)

{'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

9. Write the French word for walrus in your three-word dictionary e2f.

**Ans:-** The french word for walrus in the ‘e2f’ dictionary is ‘morse’. Here’s how you can retrieve the frech translation for ‘walrus’ from the dictionary:-

e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

french\_word\_for\_walrus = e2f['walrus']

print(french\_word\_for\_walrus) # Output: "morse"

This code retrieves the value associated with the key “walrus” in the ‘e2f” dictionary. Which is the french word “morse” and assign it to the variable “french\_word\_for\_walrus”.

10. Make a French-to-English dictionary called f2e from e2f. Use the items method.

**Ans:-** Here’s a code to implement the same:-

e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

f2e = {french: english for english, french in e2f.items()}

print(f2e)

output :- {'chien': 'dog', 'chat': 'cat', 'morse': 'walrus'}

This code uses a dictionary comprehension to create a new dictionary ‘f2e’ from the ‘e2f’ dictionary. The ‘items()’ method is used to iterate over the key value pairs in ‘e2f’. For each key-value pair, the comprehension swaps the keys and value and create a new key-value pair in ‘f2e’ with the french word as the key and the english word as the value.

11. Print the English version of the French word chien using f2e.

**Ans:-** Here’s the code to do the same:-

e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

f2e = {v: k for k, v in e2f.items()}

chien\_english = f2e['chien']

print(chien\_english)

output :- “dog”

12. Make and print a set of English words from the keys in e2f.

**Ans:-** Here’s the code to do the same:-

e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}

english\_words = set(e2f.keys())

print(english\_words)

Output :- {'dog', 'cat', 'walrus'}

13. Make a multilevel dictionary called life. Use these strings for the topmost keys: 'animals', 'plants', and 'other'. Make the 'animals' key refer to another dictionary with the keys 'cats', 'octopi', and 'emus'. Make the 'cats' key refer to a list of strings with the values 'Henri', 'Grumpy', and 'Lucy'. Make all the other keys refer to empty dictionaries.

**Ans:-** Here’s the code to do the same:-

life = {

'animals': {

'cats': ['Henri', 'Grumpy', 'Lucy'],

'octopi': {},

'emus': {}

},

'plants': {},

'other': {}

}

print(life)

Output:- {'animals': {'cats': ['Henri', 'Grumpy', 'Lucy'], 'octopi': {}, 'emus': {}}, 'plants': {}, 'other': {}}

14. Print the top-level keys of life.

**Ans:-** Here’s the code to do the same:-

life = {

'animals': {

'cats': ['Henri', 'Grumpy', 'Lucy'],

'octopi': {},

'emus': {}

},

'plants': {},

'other': {}

}

top\_level\_keys = life.keys()

print(top\_level\_keys)

Output:- dict\_keys(['animals', 'plants', 'other'])

15. Print the keys for life['animals'].

**Ans:-** Here’s the code do the same:-

life = {

'animals': {

'cats': ['Henri', 'Grumpy', 'Lucy'],

'octopi': {},

'emus': {}

},

'plants': {},

'other': {}

}

animals\_keys = life['animals'].keys()

print(animals\_keys)

Output :- dict\_keys(['cats', 'octopi', 'emus'])

16. Print the values for life['animals']['cats']

**Ans:-** Here’s the code to do the same:-

life = {

'animals': {

'cats': ['Henri', 'Grumpy', 'Lucy'],

'octopi': {},

'emus': {}

},

'plants': {},

'other': {}

}

cat\_names = life['animals']['cats']

print(cat\_names)

Output ;- ['Henri', 'Grumpy', 'Lucy']