

-----QUESTIONS-----

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]`.
2. In which year in `years_list` was your third birthday? Remember, you were 0 years of age for your first year.
3. In the years list, which year were you the oldest?
4. Make a list called `things` with these three strings as 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?
6. Make a surprise list with the elements "Groucho," "Chico," and "Harpo."
7. Lowercase the last element of the surprise list, reverse it, and then capitalize it.
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.
9. Write the French word for walrus in your three-word dictionary `e2f`.
10. Make a French-to-English dictionary called `f2e` from `e2f`. Use the `items` method.
11. Print the English version of the French word `chien` using `f2e`.
12. Make and print a set of English words from the keys in `e2f`.
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.
14. Print the top-level keys of `life`.
15. Print the keys for `life['animals']`.
16. Print the values for `life['animals']['cats']`.

-----ANSWERS-----

```
1- years_list= [2000, 2001, 2002, 2003, 2004, 2005]
```

```
2- years_list[2]
```

```
3- year_list[-1]
```

```
4- things=['mozzarella','cinderella','salmonella']
```

```
# using forloop
result = []
for name in base_names:
    if name == 'salmonella':
        continue
    elif name == 'cinderella':
        name = name.capitalize()
    elif name == 'mozzarella':
        name = name.upper()
    result.append(name)
print(result)
```

```
# using reduce
```

```
from functools import reduce # for python3
```

```
def reduce_fuc(acc, name):  
    if name == 'salmonella':  
        return acc  
    elif name == 'cinderella':  
        name = name.capitalize()  
    elif name == 'mozzarella':  
        name = name.upper()  
    acc.append(name)  
    return acc
```

```
names = reduce(reduce_fuc, base_names, [])  
print(names)
```

```
6. surprise_list = ["Groucho", "Chico", "Harpo"]
```

```
8. e2f = {'dog': 'chien', 'cat': 'chat', 'walrus': 'morse'}  
f2e = {}  
for english, french in e2f.items():  
    f2e[french] = english
```

```
13. life = {  
    'animals': {  
        'cats': ['Henri', 'Grumpy', 'Lucy'],  
        'octopi': '',  
        'emus': '',  
    },  
    'plants': '',  
    'other': ''  
}
```

```
or k, v in life.items():  
    for k1, v1 in v.items():  
        print(k1)  
for k, v in life.items():  
    for k1, v1 in v.items():  
        if 'animals':  
            print(k1)
```

```
14. But for key 2 it only returns the top key and not the nested key. >>>  
print(entry[2].keys()) dict_keys(['N']).
```