Lab_python_2.1

Task 1 :

Task 1

1. Write a function named is_prime that takes a number as a parameter and returns True if the number is prime and False otherwise. Print whether the number 29 is prime.

[5]:
```python
# write your code here ^_^
import math

def is_prime(number):
    if number <= 1:
        return False
    for i in range(2, int(math.sqrt(number)) + 1):
        if number % i == 0:
            return False
    return True

number = 29
boolval = is_prime(number)

if boolval == True:
   print("%s is a prime number"%number)
elif boolval == False:
    print("%s is not a prime number"%number)
```

```
29 is a prime number
```

Task 2 :

Task 2

1. Create a list of 10 numbers and sort them in descending order using the sort() function.
2. Use the len() function to print the length of the sorted list.
3. Use the zip() function to combine three lists (names, ages, and cities) into a list of tuples.
4. Use the range() function to create a list of even numbers from 2 to 20 and print the list.

[31]:
```python
# write your code here ^_^
numbers = [4,7,2,3,9,1,0,8,5,6]
print (numbers)
numbers.sort()
print(numbers)
#------------------------
x=len(numbers)
print("length of the sorted list is  %s"%x)
#---------------------------------------
names = ["Abdullah","Ali","Anas"]
ages = [23,30,21]
cities = ["Jeddah","Makkah","Taif"]
info = list(zip(names, ages,cities))
print(info)
#-------------------------------------
rangeven=range(2,21,2)
print(list(rangeven))
```

```
[4, 7, 2, 3, 9, 1, 0, 8, 5, 6]
[0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
length of the sorted list is  10
[('Abdullah', 23, 'Jeddah'), ('Ali', 30, 'Makkah'), ('Anas', 21, 'Taif')]
[2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
```

Task 3 :

[73]:
```
# write your code here ^_^
phonebook = {
    "Amal": 1111111111,
    "Mohammed": 2222222222,
    "Khadijah": 3333333333,
    "Abdullah": 4444444444,
    "Rawan": 5555555555,
    "Faisal": 6666666666,
    "Layla": 7777777777,
}

print(phonebook)
phone_num = input("Enter Phone number : ")
if not phone_num.isdigit() or len(phone_num) != 10:
    print("This is invalid number.")
else:
    int_phone_num = int(phone_num)
    found = False
    for name, number in phonebook.items():
        if number == int_phone_num:
            print(f"The owner is {name}.")
            found = True

    if not found:
        print("Sorry, the number is not found.")
```

```
{'Amal': 1111111111, 'Mohammed': 2222222222, 'Khadijah': 3333333333, 'Abdullah': 4444444444, 'Rawan': 5555555555, 'Faisal': 6666666666, 'Layla': 7777777
77}
Enter Phone number :  4444444444
The owner is Abdullah.
```


Task 4 :

Task 4

- Given the following list : [5, 4, 17, 19, 30, 2, 7, 10, 45]
    1. Use a lambda function to filter out only the odd numbers.
    2. Print the new list of odd numbers.

[85]:
```
# write your code here ^_^
list_numbers = [5, 4, 17, 19, 30, 2, 7, 10, 45]

odd_num = [x for x in list_numbers if (lambda x: x %2 !=0) (x)]
print(odd_num)
```

```
[5, 17, 19, 7, 45]
```