

## 2 ) Execute with one example Lambda Functions in Python

### Read JSON Strings to Python dicts or lists

#### a) Lambda functions in Python

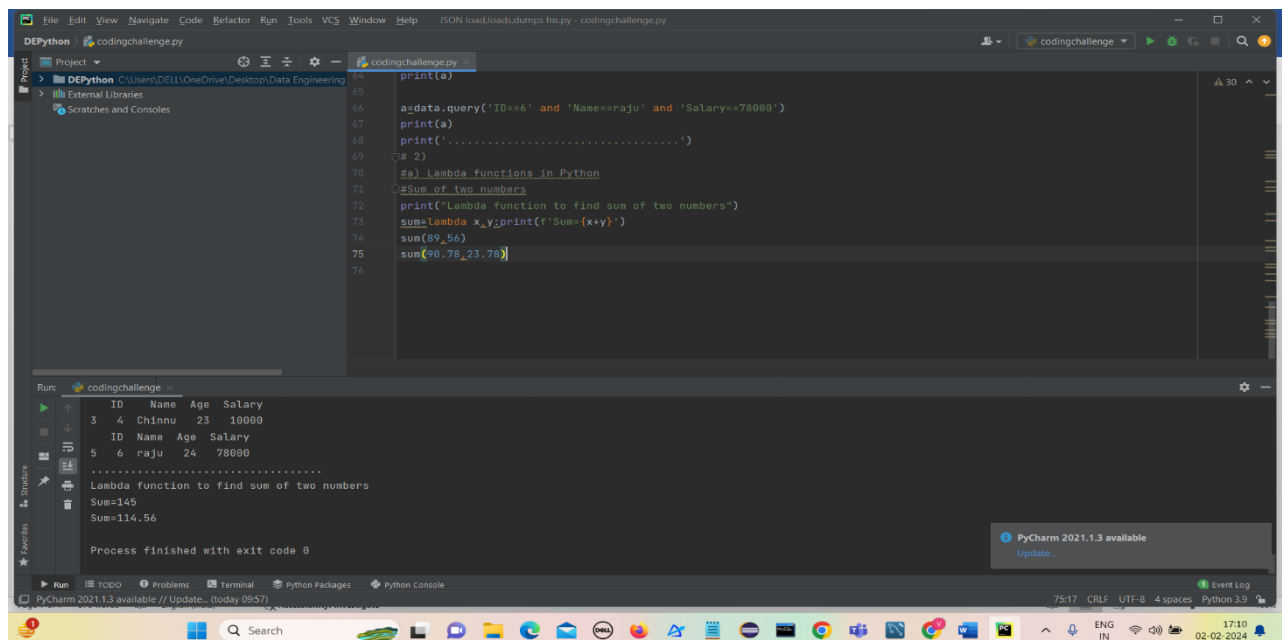
Python Lambda Functions are anonymous functions means that the function is without a name.

**Syntax:** lambda arguments : expression

This function can have any number of arguments but only one expression, which is evaluated and returned.

#### Example-1

##### Find sum of two numbers



The screenshot shows the PyCharm IDE with a Python script named `codingchallenge.py`. The script contains the following code:

```
print(a)
a=data.query('ID==6' and 'Name==raju' and 'Salary==78000')
print(a)
print('.....')
# 2)
#a) lambda functions in Python
#Sum of two numbers
print('Lambda function to find sum of two numbers')
sum=lambda x,y:print(f'Sum={x+y}')
sum(89,56)
sum(90.78,23.78)
```

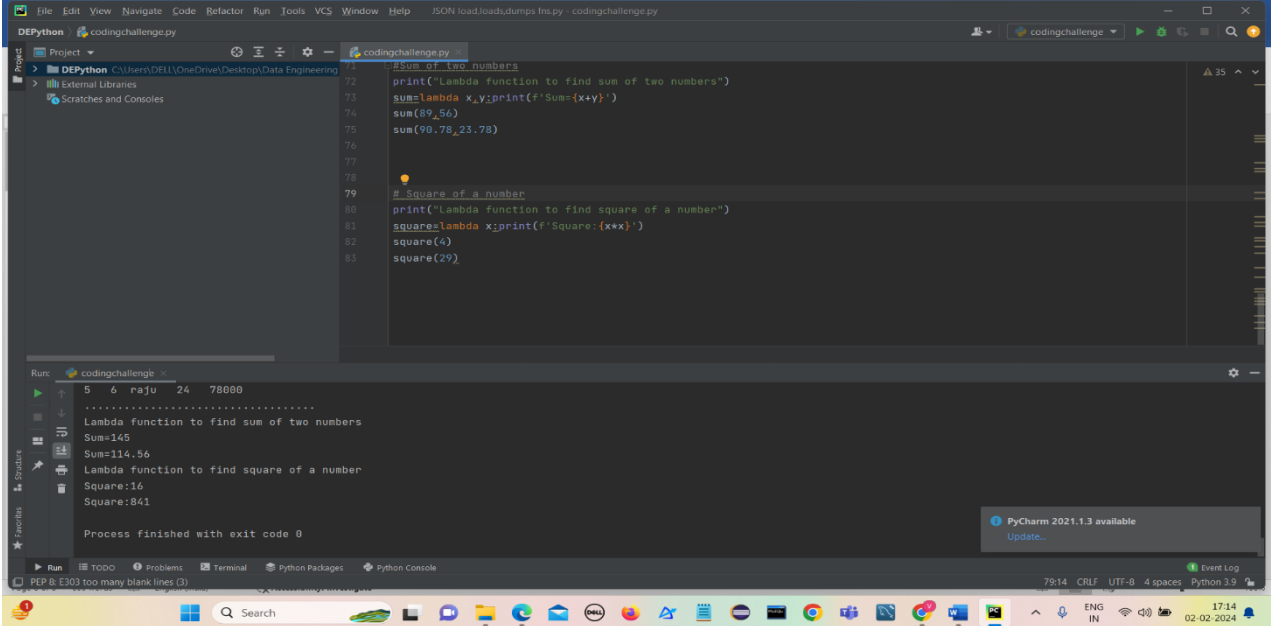
The output window shows the following results:

```
ID  Name  Age  Salary
3  4  Chinnu  23  10000
ID  Name  Age  Salary
5  6  raju  24  78000
.....
Lambda function to find sum of two numbers
Sum=145
Sum=114.56
Process finished with exit code 0
```

In this code lambda function is used to find the sum of two numbers which takes two parameters x and y and returns sum x+y.

## Example-2

### Square of a number



The screenshot shows the PyCharm IDE with a Python file named `codingchallenge.py`. The code defines two lambda functions: `sum` for adding two numbers and `square` for squaring a number. The `sum` function is tested with `sum(89, 56)` and `sum(90.78, 23.78)`. The `square` function is tested with `square(4)` and `square(29)`. The Run console shows the output of these operations.

```
71 # Sum of two numbers
72 print('Lambda function to find sum of two numbers')
73 sum=lambda x,y:print(f'Sum={x+y}')
74 sum(89,56)
75 sum(90.78,23.78)
76
77
78
79 # Square of a number
80 print('Lambda function to find square of a number')
81 square=lambda x:print(f'Square:{x*x}')
82 square(4)
83 square(29)
```

Run: codingchallenge

```
5 6 raju 24 78080
.....
Lambda function to find sum of two numbers
Sum=145
Sum=114.56
Lambda function to find square of a number
Square:16
Square:841
Process finished with exit code 0
```

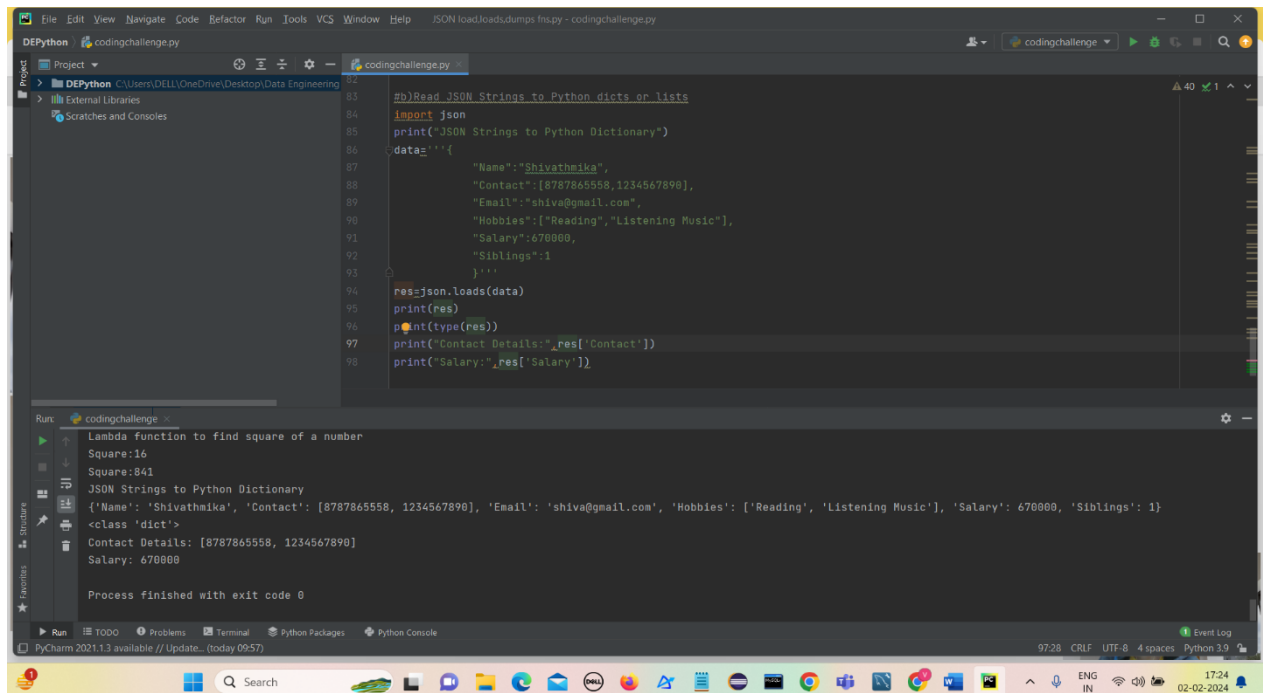
In this code lambda function is used to find square of a number which takes  $x$  as parameter and returns the value  $x*x$  which is a square of a number.

#### b) Read JSON Strings to Python dicts or lists

`Json.loads()`: converts JSON string into Python Dictionary

- import json module .
- Define JSON .
  - Convert JSON string to Python dictionary by passing it to `json.loads()` in parameter.
- Print the dictionary and their values using the keys.

## Example



```
#b)Read JSON Strings to Python dicts or lists
import json
print("JSON Strings to Python Dictionary")
data='''{
    "Name": "Shivathika",
    "Contact": [8787865558, 1234567890],
    "Email": "shiva@gmail.com",
    "Hobbies": ["Reading", "Listening Music"],
    "Salary": 670000,
    "Siblings": 1
}'''
res=json.loads(data)
print(res)
print(type(res))
print("Contact Details:", res['Contact'])
print("Salary:", res['Salary'])
```

Run: codingchallenge

```
Lambda function to find square of a number
Square:16
Square:841
JSON Strings to Python Dictionary
{'Name': 'Shivathika', 'Contact': [8787865558, 1234567890], 'Email': 'shiva@gmail.com', 'Hobbies': ['Reading', 'Listening Music'], 'Salary': 670000, 'Siblings': 1}
<class 'dict'>
Contact Details: [8787865558, 1234567890]
Salary: 670000
Process finished with exit code 0
```

In the above code **json.loads()** is used to convert a JSON string into python dictionary.

The type of **res** obtained is also **dictionary**. We can also retrieve the particular details by passing the required field like **contact**, **salary** as a **key** to dictionary **res** to get the results.