Assignment -3

Data Analytics – Python Programming

Assignment Date	06 October 2022
Student Name	Mr. A.Inbasekaran
Student Roll Number	19ITA22
Maximum Marks	2 Marks

Question-1:

What is 7 to the power of 4?

Solution:

```
result = 7 ** 4
print(result)
```

```
In [40]: res = 7 ** 4

         print(res)

         2401
```

Question-2:

Split this string: s = "Hi there Sam!" & s = "Hi there dad!" into a list.

Solution:

```
s = "Hi there dad!"
print(s.split())
```

```
In [10]: s = 'Hi there Sam!'

In [12]: print(s.split())
         ['Hi', 'there', 'Sam!']
```

Question-3:

Given the variables:
planet = "Earth"
diameter = 12742
Use .format() to print the following string: The diameter of Earth is 12742 kilometers.

Solution:

```
planet = "Earth"
diameter = 12742
print("The diameter of {} is {} kilometers.".format(planet,diameter))
```

```
In [13]: planet = "Earth"
         diameter = 12742

In [14]: print("The diameter of {} is {} kilometers.".format(planet,diameter))
         The diameter of Earth is 12742 kilometers.
```

Question-4:

Given this nested list, use indexing to grab the word "hello".

Solution:

```
lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]
print(lst[3][1][2][0])
```

```
In [55]: lst = [1,2,[3,4],[5,[100,200,['hello']],23,11],1,7]

In [56]: print(lst[3][1][2][0])
hello
```

Question-5:

Given this nest dictionary grab the word "hello". Be prepared, this will be annoying/tricky.

Solution:

```
d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}
print(d['k1'][3]['tricky'][3]['target'][3])
```

```
In [21]: d = {'k1':[1,2,3,{'tricky':['oh','man','inception',{'target':[1,2,3,'hello']}]}]}

In [23]: print(d['k1'][3]['tricky'][3]['target'][3])
hello
```

Question-6:

What is the main difference between a tuple and a list?

Solution:

print("Tuple is immutable but list is mutable").

```
In [4]: print("Tuple is immutable but list is mutable")
        Tuple is immutable but list is mutable
```

Question-7:

Create a function that grabs the email website domain from a string in the form: user@domain.comSo for example, passing "user@domain.com" would return: domain.com.

Solution:

```
def domainGet(email):
  return email.split('@')[-1]

print(domainGet('user@domain.com'))
```

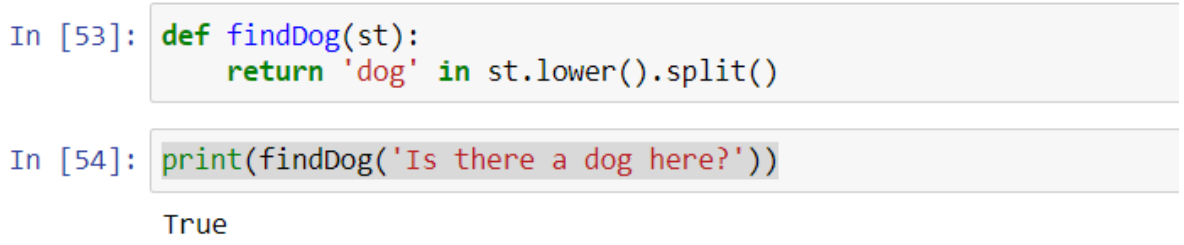
```
In [25]: def domainGet(email):
             return email.split('@')[-1]

In [27]: print(domainGet('user@domain.com'))
         domain.com
```

Question-8:

Create a basic function that returns True if the word 'dog' is contained in the input string. Don't worry about edge cases like a punctuation being attached to the word dog, but do account for capitalization.

Solution:

```
def findDog(st):
   return 'dog' in st.lower().split()
print(findDog('Is there a dog here?'))
```



Question-9:

Create a function that counts the number of times the word "dog" occurs in a string. Again ignore edge cases.

Solution:

```
def countDog(st):
   count = 0
   for word in st.lower().split():
      if word == 'dog':
         count += 1
   return count
print(countDog('This dog runs faster than the other dog dude!'))
```

In [30]:
```
def countDog(st):
    count = 0
    for word in st.lower().split():
        if word == 'dog':
            count += 1
    return count
```

In [32]:
```
print(countDog('This dog runs faster than the other dog dude!'))
```

```
2
```

Question-10:

You are driving a little too fast, and a police officer stops you. Write a function to return one of 3 possible results: "No ticket", "Small ticket", or "Big Ticket". If your speed is 60 or less, the result is "No Ticket". If speed is between 61 and 80 inclusive, the result is "Small Ticket". If speed is 81 or more, the result is "Big Ticket". Unless it is your birthday (encoded as a boolean value in the parameters of the function) -- on your birthday, your speed can be 5 higher in all cases. *

Solution:

```
def caught_speeding(speed, is_birthday):

    if is_birthday:
        speeding = speed - 5
    else:
        speeding = speed

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'

print(caught_speeding(81,True))
```

print(caught_speeding(81,False))

In [57]:
```
def caught_speeding(speed, is_birthday):

    if is_birthday:
        speeding = speed - 5
    else:
        speeding = speed

    if speeding > 80:
        return 'Big Ticket'
    elif speeding > 60:
        return 'Small Ticket'
    else:
        return 'No Ticket'
```

In [58]:
```
print(caught_speeding(81,True))
```

```
Small Ticket
```

In [59]:
```
print(caught_speeding(81,False))
```

```
Big Ticket
```

Question-11:

Create an employee list with basic salary values(at least 5 values for 5 employees) and using a for loop retreive each employee salary and calculate total salary expenditure.

Solution:

def weeklyPaid(hours_worked, wage):

```
    if hours_worked > 40:
        return 40 * wage + (hours_worked - 40) * wage
* 1.5
    else:
        return hours_worked * wage


hours_worked = 50
wage = 100

pay = weeklyPaid(hours_worked, wage)

print(f"Total gross pay: Rs.{pay:.2f} ")
```

In [42]:

```
def weeklyPaid(hours_worked, wage):
    if hours_worked > 40:
        return 40 * wage + (hours_worked - 40) * wage * 1.5
    else:
        return hours_worked * wage


hours_worked = 50
wage = 100

pay = weeklyPaid(hours_worked, wage)

print(f"Total gross pay: Rs.{pay:.2f} ")
```

```
Total gross pay: Rs.5500.00
```

Question-12:

Create two dictionaries in Python: First one to contain fields as Empid, Empname, Basicpay . Second dictionary to contain fields as DeptName, DeptId. Combine both dictionaries.

Solution:

```
test_dict1 = {"Gfg" : 20, "is" : 36, "best" : 100}
test_dict2 = {"Gfg2" : 26, "is2" : 19, "best2" : 70}

# printing original dictionaries
print("The original dictionary 1 is : " + str(test_dict1))
print("The original dictionary 2 is : " + str(test_dict2))

# extracting keys and values
keys1 = list(test_dict1.keys())
vals2 = list(test_dict2.values())

# assigning new values
```

```
res = dict()
for idx in range(len(keys1)):
   res[keys1[idx]] = vals2[idx]

# printing result
print("Mapped dictionary : " + str(res))
```

In [43]:

```
test_dict1 = {"Gfg" : 20, "is" : 36, "best" : 100}
test_dict2 = {"Gfg2" : 26, "is2" : 19, "best2" : 70}

# printing original dictionaries
print("The original dictionary 1 is : " + str(test_dict1))
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# extracting keys and values
keys1 = list(test_dict1.keys())
vals2 = list(test_dict2.values())

# assigning new values
res = dict()
for idx in range(len(keys1)):
    res[keys1[idx]] = vals2[idx]

# printing result
print("Mapped dictionary : " + str(res))
```

```
The original dictionary 1 is : {'Gfg': 20, 'is': 36, 'best': 100}
The original dictionary 2 is : {'Gfg2': 26, 'is2': 19, 'best2': 70}
Mapped dictionary : {'Gfg': 26, 'is': 19, 'best': 70}
```