

**Assignment -1**  
Python Programming

Assignment Date	19 September 2022
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Maximum Marks	2 Marks

**Question-1:**

What is 7 to the power of 4?

**Solution-**

```
x=7**4
```

```
x
```

```
x=7**4
x
2401
```

**Question-2:**

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

**Solution-**

```
txt="Hi there Sam!"
x= txt.split()
print(x)
```

```
txt="Hi there Sam!"
x= txt.split()
print(x)
['Hi', 'there', 'Sam!']
```

**Question-3:**

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

**Solution-**

```
txt="Hi there dad!"
x= txt.split()
print(x)
['Hi', 'there', 'dad!']
```

**Question-4:**

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));
The diameter of Earth is 12742 Kilometers.
```

#### Question-5:

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

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

#### Solution-

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

#### Question-6:

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

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

#### Solution-

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

#### Question-7:

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

#### Solution-

#tuples operations are safe.

#tuple is immutable.

#tuples consumes less memory.

#### Question-8:

Create a function that grabs the email website domain from a string in the form:

user@domain.com

So for example, passing "user@domain.com" would return: domain.com

#### Solution-

```
def domainGet(email):
    print("Your domain is: " + email.split('@')[-1])

email = input("Please enter your email: >")
domainGet(email)
Please enter your email: >user@domain.com
Your domain is: domain.com
```

### Question-9:

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):
    if 'dog' in st.lower():
        print("True")
    else:
        print("False")

st = "Is there a dog here?"
findDog(st)
True
```

### Question-9:

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

#### Solution-

```
def countdogs(value):
    count = 0
    for word in value.lower().split():
        if word == 'dog' or word == 'dogs':
            count = count + 1
            print(count)

value = 'This dog runs faster than the other dog dude!';
countdogs(value)
1
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'  
caught_speeding(81,True)  
Small Ticket  
caught_speeding(87,True)  
'Big Ticket'
```