** What is 7 to the power of 4?**

```
print(7**4)
```

```
     2401
```

** Split this string:**

```
   s = "Hi there Sam!"
```

**into a list. **

```
s="Hi there Sam!"
```

```
l=list(map(str,s.split()))
print(l)
```

```
     ['Hi', 'there', 'Sam!']
```

** Given the variables:**

```
   planet = "Earth"
   diameter = 12742
```

** Use .format() to print the following string: **

```
   The diameter of Earth is 12742 kilometers.
```

```
d1="The diameter of {planet} is {diameter} kilometers".format(planet = "Earth", diameter =
```

```
print(d1)
```

```
     The diameter of Earth is 12742 kilometers
```

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

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

```
print(lst[3][1][2][0])
```

```
     hello
```

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

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

```
print(d['k1'][3]['tricky'][3]['target'][3])
```

```
    hello
```

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

Lists are mutable,Tuples are immutable

** 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

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

```
gmail("user@domain.com")
```

```
    'domain.com'
```

** Create a basic function that returns True if the word 'dog' is contained in the input s

```
def function(s):
  x=s.lower().split()
  for i in x:
    if(i=="dog"):
      return True
  return False
```

```
function("I have a pet DOG")
```

```
    True
```

** Create a function that counts the number of times the word "dog" occurs in a string. Ag

```
def function1(s):
  count=0
  x=s.lower().split()
  for i in x:
    if(i=="dog"):
      count=count+1
  return count
```

```
print(function1("i have a pet dog . and dog is so friendly"))
```

2

Problem
**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 "B
cases. **

```python
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(84,False)
```

     'Big Ticket'

```python
caught_speeding(50,True)
```

     'No Ticket'

Create an employee list with basic salary values(at least 5 values for 5 employees)   and u

```python
e=[20000,40000,60000,50000,10100]
sum=0
print("Employee salary")
for i in e:
  sum=sum+i
  print(i)
print("Total Expenditure")
print(sum)
```

     Employee salary
     20000
     40000
     60000
     50000
     10100
     Total Expenditure
     180100

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.

```
dict1={"empid":11,"empname":"priya","basicpay":13000};
dict2={"deptname":"cs","deptid":34}
dict1.update(dict2)
print(dict1)
```

    {'empid': 11, 'empname': 'priya', 'basicpay': 13000, 'deptname': 'cs', 'deptid': 34}

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