Python Basic Programming Exercises

a**2= 5 + 4 * 9 % (3 + 1) / 6 - 1

```
a= 5 + 4 * 9 % (3 + 1) / 6 - 1
```

```
a
```

```
4.0
```

```
number=int(input("take a number"))

if (number%2==0):
    print("even")
else:
    print("odd")
```

```
take a number47
odd
```

```
A=int(input("Take a number"))
for i in range(1,11):
    L_8=(str(A)+" x "+str(i)+" = "+str(i*A))
    print(L_8)
```

```
Take a number9
9 x 1 = 9
9 x 2 = 18
9 x 3 = 27
9 x 4 = 36
9 x 5 = 45
9 x 6 = 54
9 x 7 = 63
9 x 8 = 72
9 x 9 = 81
9 x 10 = 90
```

```
for i in range(2000,3201):
    if i%7==0 and i%5!=0:
         print(i,end=" ,")
```

```
2002 ,2009 ,2016 ,2023 ,2037 ,2044 ,2051 ,2058 ,2072 ,2079 ,2086 ,2093
,2107 ,2114 ,2121 ,2128 ,2142 ,2149 ,2156 ,2163 ,2177 ,2184 ,2191 ,219
8 ,2212 ,2219 ,2226 ,2233 ,2247 ,2254 ,2261 ,2268 ,2282 ,2289 ,2296 ,2
303 ,2317 ,2324 ,2331 ,2338 ,2352 ,2359 ,2366 ,2373 ,2387 ,2394 ,2401
,2408 ,2422 ,2429 ,2436 ,2443 ,2457 ,2464 ,2471 ,2478 ,2492 ,2499 ,250
6 ,2513 ,2527 ,2534 ,2541 ,2548 ,2562 ,2569 ,2576 ,2583 ,2597 ,2604 ,2
611 ,2618 ,2632 ,2639 ,2646 ,2653 ,2667 ,2674 ,2681 ,2688 ,2702 ,2709
,2716 ,2723 ,2737 ,2744 ,2751 ,2758 ,2772 ,2779 ,2786 ,2793 ,2807 ,281
4 ,2821 ,2828 ,2842 ,2849 ,2856 ,2863 ,2877 ,2884 ,2891 ,2898 ,2912 ,2
919 ,2926 ,2933 ,2947 ,2954 ,2961 ,2968 ,2982 ,2989 ,2996 ,3003 ,3017
```

```
,3024 ,3031 ,3038 ,3052 ,3059 ,3066 ,3073 ,3087 ,3094 ,3101 ,3108 ,312
2 ,3129 ,3136 ,3143 ,3157 ,3164 ,3171 ,3178 ,3192 ,3199 ,
```

```
s_9=[2, 3, 'Py', '10', 1, 'SQL', 5.5, True, 3, 'John', None, 7]

for i in s_9:
    X=[s_9.count(i)]
    print(X)
```

```
[1]
[2]
[1]
[1]
[2]
[1]
[1]
[2]
[2]
[1]
[1]
[1]
```

OR

```
X=[[s_9.count(i),i]for i in (s_9)]
print(X)
```

```
[[1, 2], [2, 3], [1, 'Py'], [1, '10'], [2, 1], [1, 'SQL'], [1, 5.5],
[2, True], [2, 3], [1, 'John'], [1, None], [1, 7]]
```

OR

```
srt_1=0
int_1=0
float_1=0
bool_1=0

for i in s_9:
        if type(i)==int:
            int_1+=1
        elif type(i)==str:
            srt_1+=1
        elif type(i)==float:
            float_1+=1
        else:
            bool_1+=1

print({"srt_1":srt_1,"int_1":int_1,"float_1":float_1,"bool_1":bool_1})
```

```
{'srt_1': 4, 'int_1': 5, 'float_1': 1, 'bool_1': 2}
```

```
s_9=[2, 3, 'Py', '10', 1, 'SQL', 5.5, True, 3, 'John', None, 7]

a=sum([i for i in s_9 if isinstance(i,int)])
b=sum([i for i in s_9 if isinstance(i,float)])
print("result",a+b)
```

```
result 22.5
```

OR

```
L_1=sum([i for i in s_9 if type(i)==int or type(i)==float])
print(L_1)
```

```
21.5
```

Sir can you help me why answer are coming different

```
s_9= [2, 3, 'Py', '10', 1, 'SQL', 5.5, True, 3, 'John', None, 7]

W_2=[i for i in s_9 if isinstance(i,str)]
print(W_2)
```

```
['Py', '10', 'SQL', 'John']
```

```
'-'.join(str(W_2))
```

```
"[-'-P-y-'-,- -'-1-0-'-,- -'-S-Q-L-'-,- -'-J-o-h-n-'-]"
```

OR

```
A_1="-".join(i for i in s_9
        if type(i)==str)
print(A_1)
```

```
Py-10-SQL-John
```

```
s_9=[2, 3, 'Py', '10', 1, 'SQL', 5.5, True, 3, 'John', None, 7]

def my_function(s_9):
    count=0
    sum_1=0
    for i in s_9:
        if type(i)==str:
            count+=1
        elif type(i)==int or type(i)==float:
            sum_1=sum_1+i

    print({'sum of all numeric numbers': sum_1,'count':count})
```

```
my_function(s_9)
```

```
{'sum of all numeric numbers': 21.5, 'count': 4}
```

```
 li = [5, 7, 22, 97, 54, 62, 77, 23, 73, 61]
```

By using loop

```
for i in li:
    if (i%2!=0):
        print(i,end=',')
```

```
5,7,97,77,23,73,61,
```

by using list comp.

```
a_1=[i for i in li if i%2!=0]
print(a_1)
```

```
[5, 7, 97, 77, 23, 73, 61]
```

by using lambda,filter

```
P_0=list(filter(lambda x:x%2!=0,li))
print(P_0)
```

```
[5, 7, 97, 77, 23, 73, 61]
```

```
l_2=input("Please enter the numbers:",).split(',')

def fun():
         print('sum',sum(l_2))
         print("count",len(l_2))
         print("min",min(l_2))
         print("max",max(l_2))
         print("mean",sum(l_2)/len(l_2))

for i in range(len(l_2)):
        l_2[i]=int(l_2[i])
fun()
```

```
Please enter the numbers:9,5,4,3
sum 21
count 4
min 3
max 9
mean 5.25
```

```
def aos():
    a=int(input("Enter side of square:"))
    ar=a*a
    print("Area of square"+ str(ar))

def aor():
    l=int(input("Enter lenght of rectangle:"))
    b=int(input("Enter breadth of rectangle:"))
    ra=l*b
    print("Area of rectangle"+ str(ra))

def aoc():
    R=int(input("Enter radius of circle:"))
    ac=3.14*R**2
    print("Area of circle"+ str(ac))


print("The options are as follows")
print("1.area of square")
print("2.area of he rectagle")
print("3.area of the radius")
P_1=int(input("enter your choice"))
if(P_1==1):
    aos()
elif (P_1==2):
    aor()
elif (P_1==3):
    aoc()
else:
    print("Wrong choice")
```

```
The options are as follows
1.area of square
2.area of he rectagle
3.area of the radius
enter your choice3
Enter radius of circle:5
Area of circle78.5
```

```
def func_area(shape,**kwargs):
    if shape == 'square':
        if 'side'in kwargs.keys():
            area=kwargs['side']**2
            return area
            print("please enter the side of square:")

    elif shape=='rectangle':
        if 'length'in kwargs.keys() and 'breadth'in kwargs.keys():
            area=kwargs['length']*kwargs['breadth']
            return area
```

```
            print("please enter the length and breadth:")

    else:
        if shape=='circle':
            if 'radius'in kwargs.keys():
                area=3.14*kwargs['radius']**2
                return area
            print("please enter the radius of the circle:")



func_area("circle",radius = 4)
```

```
50.24
```

```
l1 = ['January', 'February', 'March', 'May', 'June', 'September',
'December']
l2 = ['January', 'February', 'April', 'June', 'October', 'December']

output={}
def my_function(l1,l2):
    output["Matched"]=list(set(l1).intersection(set(l2)))
    output["Only in l1"] =list(set(l1).difference(set(l2)))
    output["Only in l2"] =list(set(l1).difference(set(l2)))
    return output

my_function(l1,l2)
```

```
{'Matched': ['January', 'February', 'June', 'December'],
 'Only in l1': ['September', 'May', 'March'],
 'Only in l2': ['September', 'May', 'March']}
```

```
N_6=int(input("Take a number"))

def my_function(N_6):
    for i in range(1,N_6+1):
        if (N_6%2!=0):
            print("The number is prime number")
    else:
        print("unknown")

    my_function(N_6)
```

```
Take a number9
```

```
n=int(input("Enter a number:"))

#Factorial of a number n
#n=n*(n-1)*(n-2)*(n-3)*......*1
def fact(n):
         if (n==1 or n==0):
```

```
            return 1
        else:
            return n*fact(n-1)

            print(fact(n))
```

```
Enter a number:9
```

```
 print(fact(n))
```

```
362880
```

```
number = int(input("Type a number: "))

numberDict = {}
for i in range(1, number+1):
    numberDict[i] = i*i

print(numberDict)
```

```
Type a number: 7
{1: 1, 2: 4, 3: 9, 4: 16, 5: 25, 6: 36, 7: 49}
```

```
Num_1=input("Please write numbers:").split(",")

list_Num=list[Num_1]
tuple_Num=tuple(Num_1)

print('list of the given input is:',list_Num)
print("Tuple of the given input is:",tuple_Num)
```

```
Please write numbers:56,89,7,6,36
list of the given input is: list[['56', '89', '7', '6', '36']]
Tuple of the given input is: ('56', '89', '7', '6', '36')
```

```
S=input("enter a sequence:",)
def Func(S):
    W = S.split(" ")
    for i in range(len(W)):

      # convert all the words into lowercase
        W[i]=W[i].lower()
    S = sorted(W)
    print(','.join(S))
```

```
enter a sequence:Hi Meera and Abhi
```

```
print(Func(S))
```

```
abhi,and,hi,meera
None
```

```
S=input("enter a sequence:",)
def Func(S):
    W = S.split(" ")
    for i in range(len(W)):

      # convert all the words into lowercase
        W[i]=W[i].lower()
    S = sorted(W)
    print(' '.join(S))
```

```
enter a sequence:Meera and Neera are good girl
```

```
print(Func(S))
```

```
and are girl good meera neera
None
```

```
Str=input('Write a sentence:',)
lower=0
upper=0
for i in Str:
      if(i.islower()):
            lower+=1
      if(i.isupper()):
            upper+=1
      else:
            pass
print("The number of lowercase characters is:",lower)
print("The number of uppercase characters is:",upper)
```

```
Write a sentence: HI meera
The number of lowercase characters is: 5
The number of uppercase characters is: 2
```

```
L_1="ATTCGGTTAC"
```

BY SLICING METHOD:

```
print(L_1[::-1])
```

```
CATTGGCTTA
```

BY REVERSE METHOD:

```
pp_list=list(L_1)
pp_list.reverse()
print(''.join(pp_list))
```

```
CATTGGCTTA
```

BY REVERSED METHOD:

```
L_1="".join(reversed(L_1))
print(L_1)
```

```
CATTGGCTTA
```

BY UDF:

```
def reverse(L_1):
    L_1="".join(reversed(L_1))
    return L_1


 print(reverse(L_1))
```

```
CATTGGCTTA
```