Certificate Course in Machine Learning using Python [6 Weeks]

Exercises and Practice Problems in Python

Exercises and Practice Problems (Python Function)

Write a Python function to print area and perimeter of a circle.

```
def area(r):
  a=pi*r**2
  print("area:{0:.2f}".format(a))

def perimeter(r):
  p=2*pi*r
  print("Perimeter:{0:.2f}".format(p))

radius=float(input("enter the radius of a circle:"))
pi=3.14
area(radius)
perimeter(radius)
```

Q. Write a Python function to check whether a number is even or odd.

```
def iseven(number):
    if(number%2==0):
        print('Number is even')
    else:
        print('Number is odd')

n=int(input("Enter a Number:"))
iseven(n)
```

Q. Write a function to swap two numbers.

```
def swap(n1,n2):
    temp=n1
    n1=n2
    n2=temp
    return (n1,n2)

number1=int(input("Enter First Number:"))
number2=int(input("Enter Second Number:"))
print('Numbers before swapping')
print(number1,number2)
(number1,number2)=swap(number1,number2)
print('Number after swapping')
print(number1,number2)
```

Q. Write a Python function to calculate simple interest.

```
def si_int(p,r,t):
    si=(p*r*t)/100
    return si

pr=int(input("Enter Principal Amount:"))
time=int(input("Enter Time:"))
rate=float(input("Enter Rate of Interest:"))
s=si_int(pr,rate,time)
print("Simple Interest=",s)
```

Q. Write a Python function to calculate the factorial of a number

```
def factorial(n):
  p=1
  for i in range(1,n+1):
    p=p*i
```

```
    return p

n=int(input("Enter First Number:"))
fact=factorial(n)
print('Factorial value:', fact)
```

Q. Write a Python function that takes a list and returns a new list with unique elements of the first list.

```
def unique_list(l):
        x = []
        for a in l:
                if a not in x:
                        x.append(a)
        return x

l=[10,45,41,48,75,74,41,74,14,54,14,14]
l2=unique_list(l)
print('Original List:',l)
print('Unique List:',l2)
```

Q. Write a Python function that takes a number as a parameter and check the number is prime or not.

```
def prime(num):
   for i in range(2, num):
      if (num % i) == 0:
         print(num, "is not a prime number")
         break
   else:
      print(num, "is a prime number")

n=int(input("enter a number to find its PRIME OR NOT:"))
prime(n)
```

Q. Write a Python function to calculate the average, maximum and minimum salary of 10 employees.

```
def salary(l):
    avg=sum(l)/len(l)
    print("Average Salary:",avg)
    print('Maximum Salary:',max(l))
    print('Minimum Salary:',min(l))

emp=[]
for i in range(10):
    i=int(input("Input Salary:"))
    emp.append(i)

salary(emp)
```

Q. Write a Python function using lambda and map to calculate the square of each number in a list.

```
data=[]
for i in range(5):
    i=int(input("Input Number:"))
    data.append(i)

print("Original List:",data)
square_nums = list(map(lambda x: x ** 2, data))
print("Square Of Every number of the list:",square_nums)
```

Q. Using a lambda and map function, calculate the sum of all numbers of a list.

```
#square is calculated previously in square_nums
total=sum(square_nums)
print("Sum of square of all members of a list:",total)

#or we can define a new lambda and map function
t=sum(map(lambda x: x**2,data))
print(t)
```

Q. Using lambda and map calculate the cube of all numbers of a list and find minimum element and maximum element from the resultant list.

```
new_data=[2,4,6,8,10]
cube_data = list(map(lambda x: x ** 3, new_data))
print("Cube of each member:",cube_data)

print("Minimum element from resultant list:",min(cube_data))
print("Maximum element from resultant list:",max(cube_data))
```

Q. Calculate average of sum of cube of all numbers of a list by using lambda and map.

```
#cube_data is already calculated in previous question.
average_cube=sum(cube_data)/len(data)
print("average of sum of cube of all numbers of Data:",average_cube)
```

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