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Code

[2]:
```
#24-09-25
Functions:A function is a block of reusable code  that perfom specific task.
functions make our program more organised ,readable and reduce repetition.

function always represented by ()#all the functions will have open and close brackets

TYpes of functions:
1.Built-in function:Already available in python eg.print(),len(),input...etc
2.User defined function:Functions created by user using def keyword
3.lambda function:the anonymous (nameless) function written in single line using the lambda keyword
```

[ ]:
```
categories of writing a function:
1)function without input and without return
2)function with input and without return
3) function without input an with retrun
4) function with input anf witn return
```

[ ]:
```
# user defined function to calclulate simple interest
formula = p*t*r/100
p=principle amount
t= time
r= rate of interest
```

[ ]:
```
1)function without input and without return

syntax :def fun_name():        #without input so there s nothint to define inside function or parameters is not passed
        statements
```

[ ]:
```
# programme to create under function withot n whout return for simple interest

def si():
```

r= rate of interest

[ ]:
```
1)function without input and without return

syntax :def fun_name():       #without input so there s nothint to define inside function or parameters is not passed
        statements
```

[7]:
```
# programme to create under function withot n whout return for simple interest

def si1():
    p = float(input("enter principle value:"))   #p ,t,r value cant be called outside the function coz they are local variable and defined inside the fun
    t = float(input("enter time:"))
    r = float(input("enter r value:"))
    si = (p*t*r)/100
    print(f"the simple interest is {si} for pa = {p},time = {t},roi = {r}")
```

[8]:
```
si1()  #time means period or  years in calculting interest
```

```
enter principle value: 150000
enter time: 7
enter r value: 5
the simple interest is 52500.0 for pa = 150000.0,time = 7.0,roi = 5.0
```

[9]:
```
print(p) :# print p cannot be executes since its already defined inside the function and ot os called as local variable
```

```
---------------------------------------------------------------------------
NameError                                 Traceback (most recent call last)
Cell In[9], line 1
----> 1 print(p)

NameError: name 'p' is not defined
```

[ ]:
```
2)functions with input and without return
 def fun_name (p1,p2,p3.....pn):
```

Basic

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Code

[ ]:
```
2)functions with input and without return
def fun_name (p1,p2,p3.....pn):
    statements
```

[11]:
```
#example:

def si2(p,t,r):
    si = (p*t*r)/100
    print(f" the simple interest is {si} for pa = {p} ,time = {t} ,roi = {r}")
```

[12]:
```
si2(25000,3,4)
```

```
 the simple interest is 3000.0 for pa = 25000 ,time = 3 ,roi = 4
```

[13]:
```
x = float(input("enter p value:"))
y = float(input("enter t value:"))
z = float(input("enter r value:"))
```

```
enter p value: 25000
enter t value: 3
enter r value: 4
```

[14]:
```
si2(x,y,z)  #there is  no necessary that the variable name can be same while defining.
```

```
 the simple interest is 3000.0 for pa = 25000.0 ,time = 3.0 ,roi = 4.0
```

[ ]:
```
3)Fucntion without   input with return
  def fun_name():
      statements
      returb value
                                        #tuple format
```

[4]:
```
def si3():
    p= float(input("enter p value:"))
```

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Code

[ ]:
```
3)Fucntion without   input with return
 def fun_name():
     statements
     returb value
                                          #tuple format
```

[4]:
```
def si3():
    p= float(input("enter p value:"))
    t= float(input("enter t value:"))
    r= float(input("enter r vallue:"))
    si=(p*t*r)/100
    return p,t,r,si
```

[5]:
```
var= si3()
```
```
enter p value: 25000
enter t value: 3
enter r vallue: 2.6
```

[7]:
```
a,b,c,d =si3() # instead of declaring value like 0,1,2,3 we can also declare values as a,b,c like this method
```
```
enter p value: 25000
enter t value: 3
enter r vallue: 2.6
```

[8]:
```
print(f"the simple interest is {d} for pa = {a},time ={b} ,roi = {c}")
```
```
the simple interest is 1950.0 for pa = 25000.0,time =3.0 ,roi = 2.6
```

[32]:
```
print(F"the simple interest is {var[3]} for pa = {var[0]} ,time = {var [1]} ,roi ={var[2]}")
```
```
the simple interest is 4800.0 for pa = 40000.0 ,time = 3.0 ,roi =4.0
```

[ ]:
```
print("the simplest interest is {d} for pa
```

[ ]:
```
4)function with input and with return
def fun_name(p1,p2,...,pn):
```

Search

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

[5]:
```
var= si3()
```

```
enter p value: 25000
enter t value: 3
enter r vallue: 2.6
```

[7]:
```
a,b,c,d =si3() # instead of declaring value like 0,1,2,3 we can also declare values as a,b,c like this method
```

```
enter p value: 25000
enter t value: 3
enter r vallue: 2.6
```

[8]:
```
print(f"the simple interest is {d} for pa = {a},time ={b} ,roi = {c}")
```

```
the simple interest is 1950.0 for pa = 25000.0,time =3.0 ,roi = 2.6
```

[32]:
```
print(F"the simple interest is {var[3]} for pa = {var[0]} ,time = {var [1]} ,roi ={var[2]}")
```

```
the simple interest is 4800.0 for pa = 40000.0 ,time = 3.0 ,roi =4.0
```

[ ]:
```
print("the simplest interest is {d} for pa
```

[ ]:
```
4)function with input and with return
def fun_name(p1,p2....pn):
    statements
    return value
```

[18]:
```
def si4(p,t,r):              # when we want the value to print in statement first we need to store in varible
    si = (p*t*r)/100
    return si
```

[21]:
```
si4(40000,2,1)
```

functions

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Code

[ ]:
```
4)function with input and with return
def fun_name(p1,p2....pn):
    statements
    return value
```

[18]:
```
def si4(p,t,r):
    si = (p*t*r)/100          # when we want the value to print in statement first we need to store in varible
    return si
```

[21]:
```
si4(40000,2,1)
```

[21]:
```
800.0
```

[22]:
```
siv=si4(40000,2,1)  # storing the value in var to display in statement format
```

[24]:
```
print("the simple interest value if :",siv)
```

```
the simple interest value if : 800.0
```

[ ]:
```
create  a function to check give number is prime or not using with input and without return
def si2(p,t,r):
    si = (p*t*r)/100
    print(f" the simple interest is {si} for pa = {p} ,time = {t} ,roi = {r}")

def pn(
```

Search