```
# GATE 2024

def f(x: int, y:int):
  for i in range(y):
    x = x+x+y
  return x


# GATE 2018

def fun(n: int):
  i = n
  j = 0
  sum = 0

  while i>1:
    j+=1
    i//=2
  while j>1:
    j//=2
    sum+=1

  return sum


def rq(x, y):
  r = x
  q = 0
  while (r>=y):
    r = r-y
    q = q+1

  return q, r

rq(45, 7)
```

```
(6, 3)
```

```
# GATE 2003

def findFunc(x, y):
  p = 1
  s = 1
  for i in range(1,y):
    p*=(x/i)
    s+=p
  return s


# GATE 2021

def inc():
  global i
  i += 1
  return i

count = 0
i = 0
for j in range(-3, 4):
  if ((j>=0) and inc()):
    count += j
count += i
print(count)
```

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10
```

```
def exp(X: int, Y: int):
  res = 1
  a = X
  b = Y
  while b!=0:
    if b%2 ==0:
      a = a*a
      b = b//2
    else:
      res = res*a
      b = b-1
  return res


e = "butter"

def f(a):
  print(print(a) or e)

f("bitter")
```

```
bitter
butter
```

```
e = "butter"

def f(a):
  print(print(a) and e)

f("bitter")
```

```
bitter
None
```

```
e = "butter"

def f(a):
  print(print(a)+5)

f("bitter")
```

```
bitter
---------------------------------------------------------------------------
TypeError                                 Traceback (most recent call last)
<ipython-input-5-021373d4f8ff> in <cell line: 6>()
      4   print(print(a)+5)
      5
----> 6 f("bitter")

<ipython-input-5-021373d4f8ff> in f(a)
      2
      3 def f(a):
----> 4   print(print(a)+5)
      5
      6 f("bitter")

TypeError: unsupported operand type(s) for +: 'NoneType' and 'int'
```

Next steps: Explain error

```
# ISRO 2020

name = "satellites"

l = len(name)
s = len(set(name))

val = ord(str(l)[0]) + ord(str(s))

def add(a,b):
  return a+b

def sub(a,b):
  return a-b

list_1 = [[sub, 0], [sub, 6], [add, 13], [sub, 2]]

for i in range(len(list_1)):
  print(chr(list_1[i][0](val, list_1[i][1])), sep="-")
```

```
g
a
t
e
```

```
def myX(E: list, size: int):
  Y = 0
  for i in range(size):
    Y = Y+E[i]

  for i in range(size):
    for j in range(i, size):
      Z = 0
      for k in range(i, j+1):
        Z = Z+E[k]
      if Z>Y:
        Y = Z

  return Y
```