



# **Workbook**

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Included with Python Course.

All the exercises are divided based on different lessons, run the code's for answers!

## <Exercise>

Q1. Which of the following are not built-in data types?

- int
- complex
- sect
- tuple
- list
- decimal

Q2. Which is the correct way to write the keyword:

- If
- if
- IF
- \_if\_

Q3. What will be the output of the following programs?

```
1 data = 30.45
2 print(type(data))
3 print(int(data))
```

```
1 num = 25
2 fnum = float(num)
3 print(fnum)
```

Q4. Match the following:

float	245
complex	False
bool	[‘Java’, ‘C++’]
string	‘176’
bytes	‘python’
integer	45.05
list	2 + 5j
numeric string	b‘python’

## <Exercise>

Q1. Write a program that swaps the values of variables a and b. I do not allow you to use a third variable. You also may not perform arithmetic on a and b.

Q2. Write a program with variable num and print it on the terminal, then add 10 to it and print it again.

Q3. Write program with variables like name\_1, name\_2 and name\_3 and assign three strings to it (names).

Also, print them on the terminal so you get the output like:

```
Hello <name_1>
Hello <name_2>
Hello <name_3>
```

*Tip:* You can concatenate the variable while printing them with <'Hello' + name\_1>.

Q3. Sort the following variable names into legal and illegal variable names:

- surname
- \$money
- <mood>
- encoded\_var
- 2AddedVar
- VarString
- IntVar
- \_\_int\_\_
- str
- local\_var
- 6int9
- Amt-A/c

Q4.What will be the output of the following programs?

```
1 FirstName = 'John'  
2 SurName   = 'Smith'  
3 name       = FirstName + SurName  
4 print('Yo' + name + '!')
```

```
1 num     = 19024  
2 num_1   = 33567  
3 tot     = num + num_1  
4 print(tot)
```

Q4.Is the following program correct? Run the Program.  
What is the output? or What may go wrong? Correct it  
if it's wrong.

```
1 name = 'John is'  
2 age  = 23  
3 txt  = name + age  
4 print(txt)
```

## <Exercise>

Q1. How can you fix the errors in the following program?

```
1  'It's Python'  
2  ""Python" is easy"  
3  "He said, "GO" John"  
4  'Well who's is this?'
```

Q2. Write a program to change the following string  
“the banana is yellow but the orange is orange”  
into

‘The Banana Is Yellow But The Orange Is Orange’

Q3. Given a string,

Str = 'John Smith'

create a program to generate the following outputs  
using string operations:

john smith

JHON SMITH

J

th

Smith

hon

10

Q4. Write a program to decode the following code  
<74><85><83><84><95><70><85><78>.

Tip : These codes are Unicode Values

Q5.What will be the output of the following program?

```
1  Str = 'python is easy'
2  a = Str.capitalize()
3  b = Str.upper()
4  c = Str.replace('easy','not tough')
5  d = Str.find('Easy')
6  e = Str[:7]
7  f = Str[11]
8  g = Str[2] + Str[-3:-1]\
|   + Str[2] + Str[1]
9
10 h = chr(72) + chr(97) + chr(67) \
|   + chr(75) + chr(101) + chr(100)
11 i = '\x65\x6E\x64'
12 all = a+'\n'+b+'\n'+c+'\n'+str(d)+'\n' \
13 |   +e+'\n'+f+'\n'+g+'\n'+h+'\n'+i
14
15 print(d)
```

## <Exercise>

Q1. Write a program to calculate the Amount in 3 years if Principal is 35000 and Rate is 3.5%.

*Tip:* Create variables of p,t,r,si,amt for Principal, Time, Rate, Simple Interest and Amount respectively and use the following formula\_

```
4     si = p*t*r/100  
5     amt = p + si  
6     print('Amount:' + amt)
```

Q2. Write a program, in which create variables

a = 367

b = 255

and perform all the arithmetic functions on them.

Q3. Write a program, in which create a variable

num = 45.495567

and use the round() function to round it to 5 digits after decimal point.

Q4. Assume a suitable value for person a's basic salary, denoted by

bs = \*75000 (\*OR ANY OTHER)

If he spends 40% of his salary on buying food items and household essentials and 20% on house rent, then find his gross salary.

Q5. Write a program to perform the following tasks:

- print the imaginary part of  $45 + 125j$
- get 17.5 from 17.492720
- print the maximum in 123456, 123864, 123987, 123945
- print the hexadecimal of 34
- get the output of  
`pow(23,11)`
- get 56 from 55.994521
- get the minimum in 987456, 987864, 987987, 987945

Q6.What is wrong in the following programs?

```
1  a = 4j + 54
2  b = int(a)
3
4  c = b + 6j+2
5  print(c)
```

```
1  i = 34
2  f = 45
3  c = 2y+5
4
5  print(i,f,c)
```

Q7.What will be the output of the following program?

```
1  num = 145
2  num_= 12
3
4  nm_ = pow(145,12)
5  n_m = nm_ + num_
6  _nm = n_m/num_
7  _n_m= round(_nm,num_)
8
9  print(_n_m)
```

## <Exercise>

Q1.What will be the output of the following program?

```
1  a = 'Python'  
2  b,c = 1059876,1058876  
3  
4  print(bool(b > c))  
5  print(bool(not(b == c)))  
6  print(bool('py' in a))  
7  print(bool(int((str(b))[1])))
```

Q2.Write a program to generate 3 False values.

Q3.Write a program to generate 3 True Values.

Q4.Write a program using all the operators you learned in this lesson.

## <Exercise>

Q1.Create a list lang of 5 names

```
lang = ['C', 'C++', 'Java', 'Python', 'Js']
```

and perform the following actions\_

- Insert 'Ruby' in the list
- Delete 'C' from the list
- Replace 'Js' with 'JavaScript'
- Sort all the elements in the list
- Print the sorted list

Q2.Create two lists namely

```
odd = [1,3,5,7,9]
```

```
eve = [2,4,6,8]
```

and perform the following actions\_

- Combine the two lists in num list
- Add 10 to the list
- Report the total number of elements in the list
- Sort the list in descending order
- Remove all the elements in the list

Q3.Write a program to create a list of first 25 natural numbers and perform tasks accordingly to print the following output.

```
[ 1, 2, 3, 4, 5, 9, 10, 12,  
13, 17, 18, 19, 20, 21, 22,  
24, 25 ]
```

## <Exercise>

Q1. Pass a tuple to the `divmod()` function and obtain the quotient and the remainder.

Q2. Create a list of tuples. Each tuple should contain an item and its price in float  
(item,price)

Write a program to sort the tuples in descending order by the prices.

Q3. Write a program to remove empty tuples from the list of tuples.

```
lst = [(1,2),(3,5),(),(12,)(11,17),()]
```

## <Exercise>

Q1.What will be the output of the following program?

```
1  a = {10, 20, 30, 40, 50, 60, 70}
2  b = {33, 44, 51, 10, 20, 50, 30, 33}
3  print(a | b)
4  print(a & b)
5  print(a - b)
6  print(b - a)
7  print(a ^ b)
8  print(a >= b)
9  print(a <= b)
```

Q1.What is the difference between discard() & remove()

Q3.Which operator is used to determine whether a set is a subset of another set?

Q4.How to create a empty set?

Q5.Why slice syntax doesn't work on sets? Write program to see what error you get.

Q6.Write a program where

```
s = {10, 2, -3, 4, 5, 88}
```

and perform the following actions\_

- number of items in set s
- maximum element in set s
- minimum element in set s
- sum all of elements in set s
- is 77 a element of set s
- is -3 a element of set s

## <Exercise>

Q1. Create a list of students name. Create another list with corresponding marks for the students. Now, create a dictionary with the students name as keys and marks as values.

Q2. Create a list of random strings and create a dictionary using the list as keys and the length of the strings as its value.

Q3. Create a program to create a dictionary

```
dt = {'A':65,'B':66,'C':67}
```

update the dictionary with the following dict

```
dt1 = {'E':68,'F':69}
```

set the values of 'E' key to 69 and 'F' to 70.