### MTA Final Document-2

### **Microsoft Python Exam Preparation**

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1

Which expression evaluates to 4?

7-2*3	(Incorrect)
7//2-3	
O 7/2*3	
7%2+3	(Correct)

### Explanation

```
7/2*3==>10.5
7%2+3==>4
7//2-3==>0
7-2*3==>1
```

2

```
Consider the code:

    from sys import argv
    sum=0
    for i in range(2,len(argv)):
        sum += float(argv[i])
    print("The Average for {0} is {1:.2f}".format(argv[1],sum/(len(argv)-2)))

Which of the following command invocations will generate the output:
```

The average for Sachin is 20.00

py test.py Sachin 10 20 30 (correct)

py test.py Sachin 10

py test.py 20

### py test.py Sachin 10 20

### Explanation

By using argv variable present in sys module,we can access command line arguments. argv[0] represents the name of the file.

In the above code {0} will be replaced with argv[1] which is nothing but Sachin

{1:.2f} will be replaced with sum/(len(argv)-2)) and after decimal point 2 digits will be considered.

### Consider the code:

```
from sys import argv
sum=0
for i in range(2,len(argv)):
    sum += float(argv[i])
print("The Average for {0} is {1:.2f}".format(argv[1],sum/(len(argv)-2)))
```

Which of the following command invocations will generate the output:

The Average for Durga is 20.00

py test.py Durga 10 20 30	(Correct)
py test.py Durga 10	
py test.py 20	
py test.py Durga 10 20	

### Explanation

considered.

By using argv variable present in sys module,we can access command line arguments. argv[0] represents the name of the file.

In the above code {0} will be replaced with argv[1] which is nothing but Durga.

{1:.2f} will be replaced with sum/(len(argv)-2)) and after decimal point 2 digits will be

### Consider the code

Which line should be inserted at Line-1 so that x value will become 16?

○ x**=2	(Correct)		
● x*=2	(Incorrect)		

### Explanation

x+=2==>6 x-=2==>2 x\*=2==>8 x\*\*=2==>16

### Consider the following code:

```
print(type(input('Enter some value:')))
```

if we enter 10 and 10.0 individually for every run what is the output?

### Explanation

input() function always returns string type only.

### Consider the Python code:

```
1    a=['a', 'b', 'c', 'd']
2    for i in a:
3         a.append(i.upper())
4    print(a)
```

### What is the result?

SyntaxError
MemoryError thrown at runtime (Correct)
(Incorrect)
['a','b','c','d']

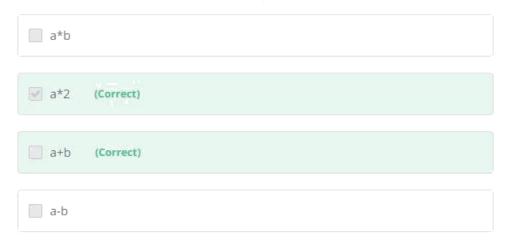
### Explanation

In the above code the content will be added keep on and it won't ends. At certain point memory problem will be raised.

Consider	the	Variable	declarations:

1 a= 5 b= 2 c

Which of the following expressions are of type str



### Explanation

a+b-->str type a\*b-->TypeError: can't multiply sequence by non-int of type 'str' a-b-->TypeError: unsupported operand type(s) for -: 'str' and 'str' a\*2-->str type

### Consider the following code:

```
print(type(eval(input('Enter some value:'))))
```

if we enter 10 and 10.0 individually for every run what is the output?

### **Explanation**

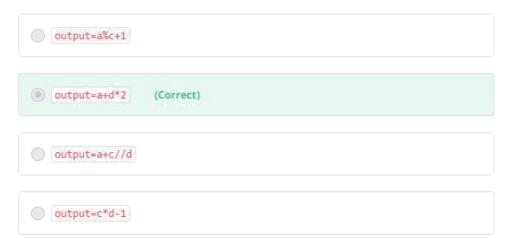
input() function always returns str type, but eval() function converts str type corresponding type automatically.

Con	side	the	code
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1 a=7 2 b=3

3 c=5 4 d=1

Which line of the code assigns 9 to the output?



### Explanation

output=a%c+1===>3 output=a+c//d====>12 output=c\*d-1===>4 output=a+d\*2===>9

9

### Consider the code: from sys import argv print(argv[0]) and given the command invocation:

### py test.py BHARATSOFT



**BHARATSOFT** 

### Explanation

By using argv variable present in sys module,we can access command line arguments. argv[0] represents the name of the file. In the above case it is 'test.py'.

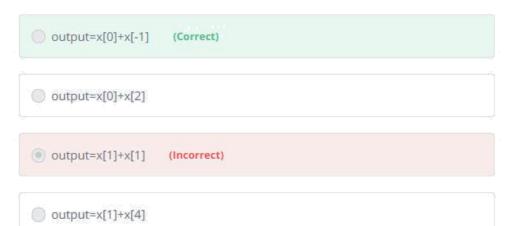
10

Consider	the following	expression:		
6//4%5+2	**3-2//3			
This expr	ession results	to:		
9	(Correct)			
O -1				
O 25				
<b>3</b>				

### Explanation

6//4%5+2\*\*3-2//3 6//4%5+8-2//3 1%5+8-2//3 1+8-2//3 1+8-0 9 x='TEXT'

which line of the code will assign 'TT' to the output?



### Explanation

```
output=x[0]+x[2]===>TX
output=x[1]+x[1]===>EE
output=x[0]+x[-1]==>TT
output=x[1]+x[4]===>IndexError,because 4 is out of range index
```

### Consider the python code:

```
print(10==10 and 20!=20)
print(10==10 or 20!=20)
print( not 10==10)
```

### What is the result?

False True False	(Correct)
False False False	
False True True	(Incorrect)
True True False	

### Explanation

If both arguments are True then only 'and' returns True.

If atleast one argument is True then 'or' returns True

not x==>if x is True then it returns False and if x if False then it returns True.

print(10==10 and 20!=20) Here first argument is True and second argument is False. Hence and operator returns False.

print(10==10 or 20!=20) Here first argument is True and second argument is False. Hence or operator returns True.

print( not 10==10) prints False to the console.

# Consider the code a=float('123.456') Which expression evaluates to 2? bool(a) int(a)+False str(a) bool(a)+True (Correct)

### Explanation

int(a)+False==>123 bool(a)+True==>2 str(a)===>'123.456' bool(a)===>True You are intern for XYZ Cars Company. You have to create a function that calculates the average velocity of vehicle on a 2640 foot(1/2 mile) track.

### Consider the python code

distance=xxx(input('Enter the distance travelled in feet:')) #Line-1
distance\_miles=distance/5280
time=yyy(input('Enter the time elapsed in seconds:')) #Line-2
time\_hours=time/3600
velocity=distance\_miles/time\_hours
print('The average Velocity:',velocity,'miles/hour')

To generate most precise output, which modifications should be done at Line-1 and at Line-2.

xxx should be replaced with int and yyy should be replaced with	ı float
xxx should be replaced with float and yyy should be replaced with int	(Incorrect)
xxx should be replaced with int and yyy should be replaced with	int
xxx should be replaced with float and yyy should be replaced with float	(Correct)

### Explanation

To get most precise output, we have to typecast into float, so that we won't miss fraction digits also.

The XYZ Company has hired you as an intern on the coding team that creates a ecommerce application. You must write a script that asks the user for a value. The value must be used as a whole number in a calculation, even if the user enters a decimal value.

Which of the following meets this requirement?



### Explanation

The return type of input() function is str by default. If we want to get only whole number from the given string, compulsory we have to type cast to int type. Hence the following is the correct statement we have to use.

If end user provides a float value and it is available in string form,to convert into whole number compulsory first we should convert into float and then into int, total\_items=int(float(input('How many items you required?')))

In which of the following cases, True will be printed to the console?

### **Explanation**

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L.U	11310	101	LUC	LUU	

```
x=2
y=6
x+=2**3
x/=y//2//3
print(x)
```

### What is the output?

0 7	
10	(Correct)
9	
0 0	

### Explanation

```
x+=2**3
x=(x)+(2**3)=10
x//=y//21/3
x=(x)//(y//2//3)
=10//(6//2//3)
=10//(3//3)
=10//1
=10
```

### Given the command invocation:

```
py test.py Durga
```

Which of the following code prints 'Durga' to the console?

```
from sys import argy
print(argv[1])

from sys import args
print(args[1])

from sys import argv
print(argv[0])

from sys import argv
print(argv[0])
```

### Explanation

By using argv variable present in sys module,we can access command line arguments. argv[0] represents the name of the file. In the above case it is 'test.py'. Hence to access 'Durga', we have to use argv[1]

If the user enters 12345 as input, Which of the following code will print 12346 to the console?

```
count=int(input('Enter count value:'))
print(count+1)

count=eval(input('Enter count value:'))
print(count+1)

count=input('Enter count value:')
print(count+1)

count=input('Enter count value:')
print(count+1)

count=input('Enter count value:')
print(int(count)+1)

(Correct)
```

### Explanation

The return type of input() function is str type. We have to perform typecasting. As user providing 12345 int value, we have to typecast either by using int() or by using eval() function.

### Consider the code

t=([10,20],10,False)

Which line of the code assigns <class 'list'> to x

```
x= type(t[1])

x= type(t[0:]) (Incorrect)

x= type(t[0]) (Correct)
```

### Explanation

```
x= type(t)===><class 'tuple'>
x= type(t[0])===><class 'list'>
x= type(t[1])===><class 'int'>
x= type(t[0:])===><class 'tuple'>
```

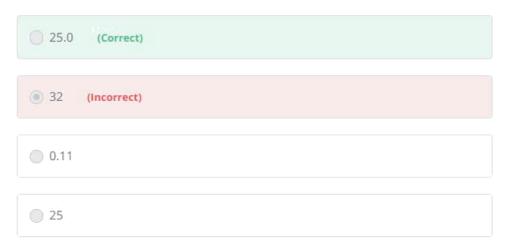
### 21



### Consider the Code

1 x=3/3+3\*\*3-3 print(x)

### What is the output?



### Explanation

x=3/3+3\*\*3-3 =3/3+27-3 =1.0+27-3 =25.0 Question 24: Skipped

### Consider the python code:

result=str(bool(1) + float(10)/float(2))
print(result)

### What is the output?

○ 6.0 (c	orrect)		
	r		
SyntaxEn	ror		

### Explanation

/ operator has more precedence than +. Hence float(10)/float(2) will be evaluated first and its result is 5.0. bool(1) is considered as True and again will be considered as 1 whenever we are performing + operator. Hence result is 6.0. str(bool(1) + float(10)/float(2))=str(bool(1) + 10.0/2.0)=str(bool(1) + 5.0)=str(True + 5.0)=str(1 + 5.0)=6.0

### Consider the code:

from sys import argv
print(argv[1]+argv[2])

and given the command invocation:



What is the result?

<b>3</b> 0
ImportError will be thrown at runtime
① 1020 (Correct)
IndexError will be thrown at runtime

### Explanation

By using argy variable present in sys module,we can access command line arguments. argv[0] represents the name of the file. The command line arguments are always considered as str type. Hence + operator meant for concatenation. In this case the output is: 1020

You develop a Python application for your company. You required to accept input from the user and print that information to the user screen.

### Consider the code:

```
print('Enter Your Name:')
#line-1
print(name)
```

### At Line-1 which code we have to write?



### Explanation

To get input from the keyboard, we have to use input() function. Hence the correct statement is: name=input()

### Which of the following are valid statements?

type('') is <class 'bool'=""></class>
True and False evaluates to False (Correct)
True or False evaluates to False
5+False evaluates to False
True+1 evaluates to 2 (Correct)

### Explanation

5+False evaluates to 5 but not False True+1 evaluates to 2 True and False evaluates to False True or False evaluates to True but not False type(") is but not

```
Consider the code:
  print(not 0)
print(not 10)
print(not '')
print(not 'durga')
print(not None)
What is the result?
      True
      False
  False
      False
      True
      True
      False
  True (Correct)
      False
      True
      True
      False
  True
      False
      False
      False
      False
  True
      False
      True
```

### **Explanation**

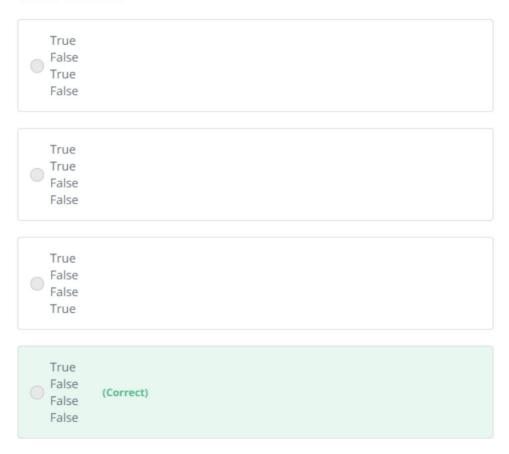
In boolean expressions:

0 is treated as False, non-zero treated as True empty string is treated as False and non-empty string treated as True None is always treated as False

### Consider the Python code:

```
11=['sunny','bunny','chinny','vinny']
2    12=['sunny','bunny','chinny','vinny']
3    print(11 is not 12)
4    print(11 != 12)
5    11=12
6    print(11 is not 12)
7    print(11 != 12)
```

### What is the result?



### Explanation

if I1 and I2 are not pointing to the same object then only 'I1 is not I2' returns True. If I1 and I2 are not having same content then only 'I1 != 12' returns True

In which of the following cases we will get <class 'int'> as output?

```
x=2**2**2
print(type(x))

x='47'
print(type(x))

x=47.0
print(type(x))

x=10+20j
print(type(x))
```

### Explanation

```
x=47.0

print(type(x))#< class 'float' >

x='47'

print(type(x))#< class 'str' >

x=10+20j print(type(x))#< class 'complex' >

x=2**2**2 print(type(x))#< class 'int' >
```

### Consider the code:

```
s='DURGA SOFT'
```

Which of the following lines will assign 9 to variable result?

```
result = len(s.lstrip())

result = len(s)

result = len(s.rstrip())

result = len(s.strip())

result = len(s.strip())

result = len(s.replace(' ','')) (Correct)
```

### Explanation

strip()==>It will remove spaces present at left and right sides of the string Istrip()==>It will remove spaces present at only left side of the string rstrip()==>It will remove spaces present at only right side of the string Hence Istrip(),rstrip() and strip()methods won't remove the space. Only replace() method replaces space character with empty string. Hence in this case the result will become 9. Question 32: Skipped

From sys module, by using which variable we can access command line arguments?



### Explanation

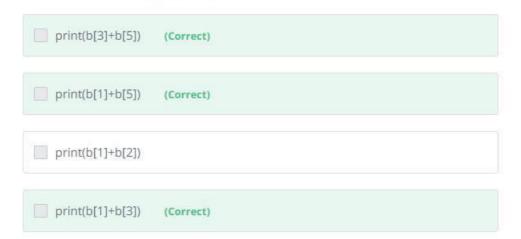
By using argv variable present in sys module,we can access command line arguments.

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Consider the variable declaration

b = 'BANANA'

Which of the following lines will print 'AA' to the console?



### Explanation

print(b[1]+b[2])==>AN print(b[1]+b[3])==>AA print(b[1]+b[5])==>AA print(b[3]+b[5])==>AA

```
Consider the Python Code
 6 print(11 is 12)
7 print(11 == 12)
What is the result?
    False
    False
 True
    True
    False
 False
    True
    True
    False
 True True
    False
    False
    True
 True
          (Correct)
    True
```

### **Explanation**

== operator is always meant for content comparison is operator is always meant for reference(address) comparison if l1 and l2 are pointing to the same object then only 'l1 is l2' returns True. If l1 and l2 are having same content then only 'l1 == l2' returns True

Consider	the	following	code:
----------	-----	-----------	-------

### What is the result?

0	(Correct)
<u>2</u>	
<u> </u>	
<u>1</u>	
3	

### Explanation

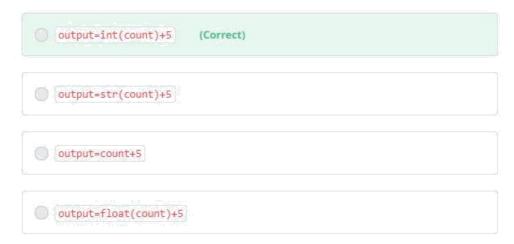
^ is XOR operator.

If both bits are same then result is 0,otherwise result is 1

### Consider the code

```
count=input('Enter the number of customers of the bank:')
tline-1
print(output)
```

Which code inserted at Line-1 will print 20 to the console if we pass 15 as count value from the console?



### Explanation

output=int(count)+5===>20 output=count+5===>Error,because we can not apply + operator between str and int output=str(count)+5===>Error,because we can not apply + operator between str and int

output=float(count)+5===>20.0

-	4 4		- 1			
	nsid	er	th	P	CO	de.

1 x='10' 2 y='20'

### The type of x+y?

float
complex
str (Correct)
int

### Explanation

If we use + operator between 2 string types the result is always string type

37

Which of the following string declarations spans more than one line and considers whitespace properly when the string is printed to the console?

a. S1='Bharat\n

 $Software \ \ n$ 

Solutions'

b. S1= "Bharat

Software

Solutions"

c. S1=' Bharat

Software

Solutions"

d. S1=" Bharat

Software

Solutions'"

### Explanation

Multi line string literals should be enclosed within triple quotes.

					14				4.4	
$C_{C}$	۱'n	ci	d	r i	H٢	١.	2 /	-0	١d	0

```
1    lst = [7, 8, 9]
2    b = lst[:]
3    print(b is lst)
4    print(b == lst)
```

### What is the result?

True False	
Falso	
False True	(Correct)
True	
True	
False False	

### Explanation

slice operator will create a new object.
== operator is always meant for content comparison
is operator is always meant for reference(address) comparison

39

## Which of the following statements are valid? The following expression evaluates to 12 b=False+5-True+35//4 (Correct)

### S="Sachin Tendulkar is cricket's great player"

It causes error because we cannot use double quotes and single quotes simultaneously

The following line will print result:4.5 print('result:',(7/2)+(False or True)+(9%3))	(Correct)
result=456+456.0 type of result is int	

### Explanation

### S="Sachin Tendulkar is cricket's great player"

```
It won't cause any error because we can take single and double quotes simultaneously

result=456+456.0
type of result is float

The following expression evaluates to 12
b=False+5-True+35//4=False+5-True+8=0+5-1+8=12

The following line will print result:4.5
print('result:',(7/2)+(False or True)+(9%3))
(7/2)+(False or True)+(9%3)
=(3.5)+(True)+(0)
=(3.5)+(1)+(0)
=4.5
```

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We are developing an app in which students will provide college name and city as input. If the student provides college name as BHARATSOFT and city as Pune, then our application has to provide the following greeting message.

Welcome to BHARATSOFT in Pune

### Which of the following code can be used for this requirement?

```
college_name=input('Enter Your College Name:')
city=input('Enter Your City:')
print('Welcome to {} in {}'.format(college_name,city))

college_name=read('Enter Your College Name:')
city=read('Enter Your City:')
print('Welcome to {} in {}'.format(college_name,city))

college_name=str('Enter Your College Name:')
city=str('Enter Your City:')
print('Welcome to {} in {}'.format(college_name,city))

college_name=eval('Enter Your College Name:')
city=eval('Enter Your City:')
print('Welcome to {} in {}'.format(college_name,city))
```

### Explanation

We should use input() function to read input from the keyboard.