NAME:_____

Q1.
You create a function to calculate the power of a number by using Python.
You need to ensure that the function is documented with comments
You create the following code. Line numbers are included for reference only.

```
1   # The calc_power function calculates exponents
2   # x is the base
3   # y is the exponent
4   # The value of x raised to the y power is returned
5   def calc_power(x, y):
6       comment = "# Return the value"
7       return x ** y  # raise x to the y power
```

Which of the following statements are true?
Choose two.

A	Line 7 contains a line comment
B	The string in line 6 will be interpreted as a comment
C	The hash # is an optional four lines 02 and 03
D	Lines 1 through four will be ignored for syntax checking

Q2.
 Consider the following code.

```
1   data = ['Peter', 'Paul', 'Mary', 'Jane']
2   res = 0
```

Which of the following code snippets will expand the code,
so that 100 will be printed to the monitor?
Choose two.

A	```for i in('Peter', 'Steve', 'Jane'):
	        if i not in data :
	                res+=50
	print(res)```

B	```for i in('Peter', 'Steve', 'Jane'):
	        if i in data :
	                res+=100
	print(res)```

C	```for i in('Peter', 'Steve', 'Jane'):
	        if i in data:
	          res+=50
	print(res)```

D	```for i in('Peter', 'Steve', 'Jane'):
	        if i not in data :
	          res+=100
	print(res)```

Q3.

What is the expected output of the following code if the user enters 2 and 4?

```
1   x = int(input())
2   y = int(input())
3   print(x + y)
```

A	4
B	24
C	2
D	6

Q4.

You want to write a programm that asks the user for a value.

For the rest of the programm you need a whole number, even if the user enters a decimal value.

What would you have to write?

A	num= int(float(input("How many do you need?")))
B	num= float(input("How many do you need?"))
C	num= int("How many do you need?")
D	num= str(input("How many do you need?"))

Q5. *A built-in function is a function which ...*

A	Has to be imported before use.
B	Is hidden from programmers.
C	Comes with Python and is an integral part of Python.
D	has to be placed within your code by another program.

Q6.

```
1   def func(data):
2       data = [7, 23, 42]
3       print('Function scope: ', data)
4
5   data = ['Peter', 'Paul', 'Mary']
6   func(data)
7   print('Outer scope: ', data)
```

A	Function scope:[7,23,42] Out of scope: ['Peter', 'Paul', 'Mary']
B	Function scope:[7,23,42] Out of scope: [7,23,42]
C	Function scope: ['Peter', 'Paul', 'Mary'] Out of scope: ['Peter', 'Paul', 'Mary']
D	None of the above.

Q7. How many stars will the following snippet print to the monitor?

```
1   for i in range(1):
2       print('*')
3   else:
4       print('*')
5
```

A	0
B	3
C	1
D	2

Q8.
What is the expected output of the following code?

```
1    class Ex(Exception):
2        def __init__(self, msg):
3            Exception.__init__(self, msg + msg)
4            self.args = (msg,)
5
6    try:
7        raise Ex('ex')
8    except Ex as e:
9        print(e)
10   except Exception as e:
11       print(e)
```

A	ex
B	The code is erroneous.
C	An empty line.
D	exex

Q9.
Select the true statements.
Choose two.

A	The args property is to a tuple designed to gather all arguments passed to the class constructor
B	The finally branch of the try-statement may be executed if special conditions are met.
C	You cannot define a new exception as a subclass derived from a pre-defined exception.
D	The finally branch of a try statements is always executed.

Q10.

What is the expected output of the following code?

```
1  try:
2      raise Exception
3  except BaseException:
4      print('1', end='')
5  else:
6      print('2', end='')
7  finally:
8      print('3', end='')
```

A	12
B	23
C	13
D	1

Q11.

You have the following file.

```
1  index.py:
2  from sys import argv
3  print(argv[1] + argv[2])
4
5
6
7
8
```

You run the file by executing the following command in the terminal.

    python index.py 42 3

What is the expected oputput?

A	424242
B	45
C	423
D	The code is erroneous.
E	126

Q12.

What is the expected output of the following code?

```
1  data1 = '1', '2'
2  data2 = ('3', '4')
3  print(data1 + data2)
4
```

A	('1','2','3','4')
B	(1,2,3,4)
C	The code is erroneous.
D	['1','2','3','4']

Q13.

What is the expected output of the following code?

```
1  data = (1, 2, 4, 8)
2  data = data[-2:-1]
3  data = data[-1]
4  print(data)
```

A	(4,)
B	(4)
C	4
D	44

Q14.

What is the expected output of the following code?

```
1   nums = [3, 7, 23, 42]
2   alphas = ['p', 'p', 'm', 'j']
3
4   print(nums is alphas)
5   print(nums == alphas)
6
7   nums = alphas
8
9   print(nums is alphas)
10  print(nums == alphas)
```

A	False True True True
B	True False True False
C	False False True True
D	False True False True

Q15.
What is the expected output of the following code?

```
1   data = [1, 2, [3, 4], [5, 6], 7, [8, 9]]
2   count = 0
3
4   for i in range(len(data)):
5       if type(data[i]) == list:
6           count += 1
7
8   print(count)
9
10
```

	A	The code is erroneous.
	B	6
	C	3
	D	9

Q16.
What is the expected output of the following code?

```
1   def func():
2       try:
3           return 1
4       finally:
5           return 2
6
7   res = func()
8   print(res)
9
10
```

	A	The code is erroneous.
	B	1
	C	2
	D	None of the above.

Q17.
The following line of code ...

```
1   for line in open('data.txt', 'r'):
2
3
```

	A	Is invalid as open returns a non-iterable object
	B	Is valid as open returns and iterable object
	C	Is invalid as open returns nothing
	D	Maybe valid if the line is a list

Q18.	
What is the expected output of the following code?	

```
1  x = 1
2  print(++++x)
3
```

A	4
B	1
C	3
D	2

Q19.
You are coding a math utility by using Python.
You are writing a function to compute roots.
The function must meet the following requirements:

*If a is non-negative, return a ** (1 / b)*
If a is negative and even, return 'Result is an imaginary number'
*If a is negaitve and odd, return -(-a) ** (1 / b)*

Which of the following functions meets the requirements?

A	
| A | ```
def safe_root(a, b):
    if a % 2 == 0:
        answer = a ** (1 / b)
    elif a >= 0:
        answer = 'Result is an imaginary number'
    else:
        answer = -(-a) ** (1 / b)
    return answer
``` |
| B | ```
def safe_root(a, b):
    if a >= 0:
        answer = a ** (1 / b)
    elif a % 2 == 0:
        answer = 'Result is an imaginary number'
    else:
        answer = -(-a) ** (1 / b)
    return answer
``` |
| C | ```
def safe_root(a, b):
    if a % 2 == 0:
        answer = -(-a) ** (1 / b)
    elif a >= 0:
        answer = 'Result is an imaginary number'
    else:
        answer = a ** (1 / b)
    return answer
``` |
| D | ```
def safe_root(a, b):
    if a >= 0:
        answer = -(-a) ** (1 / b)
    elif a % 2 == 0:
        answer = 'Result is an imaginary number'
    else:
        answer = a ** (1 / b)
    return answer
``` |

Q20.
What is the expected output of the following code?

```
1  print(3 * 'abc' + 'xyz')
2
```

	A	abcabcabcxyz
	B	abcabcxyzxyz
	C	abcxyzabcxyzabcxyz
	D	3abcxyz

Q21.
The unnamed except block ...

	A	can be placed anywhere.
	B	must be the last one.
	C	must be the first one.
	D	cannot be used if any named block has been used.

Q22.
What is the expected result of the following code?

```
1  from datetime import timedelta
2
3  delta = timedelta(weeks=1, days=7, hours=11)
4  print(delta * 2)
```

	A	The code will raise an exception.
	B	28 days, 22:00:00
	C	2 weeks, 14 days, 22 hours
	D	7 days, 22:00:00

Q23.
What is the expected output of the following code?

```
1  print(2 ** 3 ** 2 ** 1)
2
3
4
```

	A	16
	B	64
	C	128.0
	D	512
	E	The code is erroneous.
	F	16.0

Q24.	
What is the expected output of the following code?	

```
1  x = 42
2
3  def func():
4      global x
       print('1. x:', x)
       x = 23
       print('2. x:', x)

   func()
   print('3. X:', x)
```

A	1. x: 42 2. x: 23 3. x: 42
B	1. x: 42 2. x: 23 3. x: 23
C	1. x: 42 2. x: 42 3. x: 42
D	None of the above.

Q25.	
You want to print the sum of two number. What snippet would you insert in the line indicated below	

```
1  x = input('Enter the first number: ')
2  y = input('Enter the second number: ')
3  #  insert your code here
4
```

A	print('The Result is ' + str(int(x) + int(y)))
B	print('The Result is ' + (int(x + y)))
C	print('The Result is ' + (int(x) + int(y)))
D	print('The Result is ' + str(int(x + y)))

Q26.	
What is the expected output of the following code?	

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

A	11
B	9
C	0
D	10

Q27.

What is the expected output of the following code?

```
1  def func(x, y):
2      if x == y:
3          return x
4      else:
5          return
6
7  func(x, y=1)
8  print(func(0, 3))
```

A	The code is erroneous.
B	3
C	1
D	0

Q29.

What is the expected output of the following code?

```
1  data = [1, 2, 3, None, (), [], ]
2  print(len(data))
```

A	5
B	6
C	3
D	The code is erroneous.
E	4

Q29.

ASCII is:

A	a predefined Python variable name
B	a standard Python module name
C	short for American Standard Code for Information Interchange
D	a standard Python module name

Q30.

You need a list of seven numbers of random integer values
from 1 (inclusive) to 7 (inclusive).
Which of the following code snippets should you use?

A	`import random` `nums = [random.randint(1, 7) for i in range(1, 8)]`
B	`import random` `nums = random.randrange(1, 7)`
C	`import random` `nums = random.randint(1, 7)`

Q31.		
The two basic, mutually exclusive, file open modes are named:		
A	text and image	
B	binary and text	
C	binary and ternary	

Q32.		
How many arguments can the print() function take?		
A	Any number of arguments (excluding zero).	
B	Just one argument.	
C	Any number of arguments (including zero).	
D	Not more than seven arguments.	

Q33.
What would you insert instead of ???
so that the program prints True to the monitor?

```
1  x = 'Peter'
2  y = 'Peter'
3  res = ???
4  print(res)
```

A	x != y	
B	x is y	
C	x < y	
D	x is not y	

Q34.
Which of the following functions can be used to check if a file exists?

```
1  x = 'Peter'
2  y = 'Peter'
3  res = ???
4  print(res)
```

A	os.path.isfile()	
B	os.isFile()	
C	os.path.isFile()	
D	os.path.exists()	

Q35.
What is the expected output of the following code?

```
1  data = {'Peter': 30, 'Paul': 31}
2  print(list(data.keys()))
```

A	['Peter': 30, 'Paul': 31]	
B	['Peter', 'Paul']	
C	('Peter': 30, 'Paul': 31)	
D	('Peter', 'Paul')	

Q36.
You are developing a Python application
for an online product distribution company.
You need the program to iterate through a list of products
and escape when a target product ID is found.

```
1   productIdList = [0, 1, 2, 3, 4, 5, 6, 7, 8, 9]
2   index = 0
3
4   ??? index < 10:
5       print(productIdList[index])
6       if productIdList[index] == 6:
7           ???
8       else:
9           index += 1
```

A	break while	
B	while for	
C	while break	
D	if break	
E	for break	
F	for while	

Q37.
What is the expected output of the following code?

```
1   def func(x=2, y=3):
2       return x * y
3
4   print(func(y=2))
```

A	2
B	6
C	4
D	The code is erroneous.

Q38.
What is the expected output of the following code?

```
1   marks = [80, 70, 90, 90, 80, 100]
2
3   average = sum(marks) // len(marks)
4
5   grade = ''
6
7   if 90 <= average <= 100:
8       grade = 'A'
9   elif 80 <= average < 90:
10      grade = 'B'
11  elif 70 <= average < 80:
12      grade = 'C'
13  elif 65 <= average < 70:
14      grade = 'D'
15  else:
16      grade = 'F'
17
18  print(grade)
```

A	B
B	F
C	D
D	The code is erroneous.
E	A
F	C

Q39.
What is the expected output of the following code?

```
1   try:
2       print("5" / 0)
3   except ArithmeticError:
4       print("arith")
5   except ZeroDivisionError:
6       print("zero")
7   except:
8       print("some")
```

A	arith
B	zero
C	some
D	0

Q40.
What is the expected output of the following code?

```
1   data = {'name': 'Peter', 'age': 30}
2   person = data.copy()
3   print(id(data) == id(person))
4
```

A	0
B	1
C	False
D	True

Q41.

Which of the following commands can be used to read the next line from a file?

```
1   data = {'name': 'Peter', 'age': 30}
2   person = data.copy()
3   print(id(data) == id(person))
```

A	read(n)
B	read()
C	readline()
D	readlines()

Q42.
What is the expected output of the following code?

```
1   import random
2   print(random.seed(3))
3
```

A	The code is erroneous.
B	None
C	None of the above.
D	3

Q43.
Consider the following code.

```
1   nums = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
2   x = 0
3   while x < 10:          # Line 3
4       print(nums(x))    # Line 4
5       if nums[x] = 7:   # Line 5
6           break         # Line 6
7       else:             # Line 7
8           x += 1        # Line 8
```

You want to print the numbers 1 to 7 to the monitor.
But the code does not work.
What do you have to change?
Choose two.

A	print(nums[x]) # Line 4
B	if nums[x] == 7: # Line 5
C	x = x + 1 # Line 8
D	while (x < 10): # Line 3

Q44.
What is the expected output of the following code?

```
1  def func(x):
2      if x % 2 == 0:
3          return 1
4      else:
5          return
6
7  print(func(func(2)) + 1)
8
```

A	1
B	2
C	The code is erroneous.
D	None

Q45.
What is the expected output of the following code?

```
1  x = '\\\'
2  print(len(x))
```

A	The code is erroneous.
B	3
C	1
D	2

Q46.
You want to be able to read and write data to a file.
The file needs to be automatically created, if it doesn't exist.
If the file does already exist, you want to override the existing content.
Which of the following commands do you have to choose?

A	open('data.txt', 'r')
B	open('data.txt', 'w')
C	open('data.txt', 'r+')
D	open('data.txt', 'w+')

Q47.
Which of the following sentences is true?

```
1  str1 = 'Peter'
2  str2 = str1[:]
```

A	str1 and str2 are different names of the same string.
B	str1 and str2 are different (but equal) strings.
C	str1 is longer than str2
D	str2 is longer than str1

Q48.

What is the expected output of the following code?

```
1  data = ((1, 2),) * 7
2  print(len(data[3:8]))
3
```

	A	5
	B	6
	C	4
	D	The code is erroneous.

Q49.

The following is a program to validate customer numbers.

```
1  customer_number = input('Enter the employee number (dd-ddd-dddd): ')
2  parts = customer_number.split('-')
3  valid = False
4  if len(parts) == 3:
5    if len(parts[0]) == 2 and len(parts[1]) == 3 and len(parts[2]) == 4:
6      if parts[0].isdigit() and parts[1].isdigit() and parts[2].isdigit():
7        valid = True
8  print(valid)
```

The number may only contain numbers and dashes.
The number must have the right format (dd-ddd-dddd).
What is true about this programm?

	A	There will be a SyntaxError.
	B	There will be no error but there will be an unwanted result.
	C	The program works properly.
	D	There will be an AttributeError.

Q50.

If x is a file opened in read mode, what will the following line do?

```
1  data = x.read(1)
2
```

	A	Read 1 buffer from the file.
	B	Read 1 line from the file.
	C	Read 1 kilobyte from the file.
	D	Read 1 character from the file.

Q51.

Consider the following Python code:

```
1  name = 'Peter'
2  age = 23
3  flag = True
4
```

What are the types of the variables name, age and flag?

	A	float, bool, str
	B	int, bool, char
	C	str, int, int
	D	str, int, bool

Q52.

You have the following file.

```
1   index.py:
2   from sys import argv
3   sum = 0
4   for i in range(2, len(argv)):
5       sum += float(argv[i])
6   print(
7       "The average score for {0} is {1:.2f}"
8       .format(argv[1], sum/(len(argv)-2))
9   )
```

You want the following output.
The average score for Peter is 200.00

Which command do you have to execute in the command line?

A	The code is erroneous.
B	python index.py Peter 100 200 300
C	python index.py Peter 100 200
D	python index.py Peter 100

Q53.

What is the expected output of the following code?

```
1   data = {'one': 'two', 'two': 'three', 'three': 'one'}
2   res = data['three']
3
4   for _ in range(len(data)):
5       res = data[res]
6
7   print(res)
8
```

A	three
B	('one', 'two', 'three')
C	two
D	one

Q54.

What is the expected output of the following code?

```
1   x, y, z = 3, 2, 1
2   z, y, x = x, y, z
3   print(x, y, z)
4
```

A	3 2 1
B	2 1 3
C	1 2 2
D	1 2 3

Q55.
What is the data type of x, y, z after executing the following snippet?

```
1   x = 23 + 42
2   y = '23' + '42'
3   z = '23' * 7
4
```

	A	int, str, int
	B	int, str, str
	C	int, int, int
	D	x is int, y and z are invalid declarations

Q56.
Which of the following enclose the input parameters or arguments of a function?

	A	Parentheses
	B	Brackets
	C	Curly braces
	D	Quotation marks

Q57.
What is the expected output of the following code?

```
1   list1 = [3, 7, 23, 42]
2   list2 = [3, 7, 23, 42]
3   print(list1 is list2)
4   print(list1 == list2)
```

	A	True True
	B	False False
	C	True False
	D	False True