



# Introduction to Programming with Python

**[Day] [Month] [Year]**

## Examination Paper

**Answer ALL questions.**

**Clearly cross out surplus answers.**

**Time: 1 hour**

**The maximum mark for this paper is 30.**

**Any reference material brought into the examination room must be handed to the invigilator before the start of the examination.**

**SECTION A - Multiple Choice Question**  
**Circle ONE (1) correct answer from A, B, C, or D for each question.**  
**Each question is worth 1 mark.**

**Question 1**

Which ONE (1) of the following is **not** a high-level programming language?

- A Python
- B VB.NET
- C Binary**
- D Java

**1 mark**

**Question 2**

Select the output from this program:

```
value1 = 100
while(value1 > 90):
    print(value1 + 1)
    value1 = value1 - 2
```

- A 101 99 97 95 93**
- B 100 98 96 94 92
- C 92 94 96 98 100
- D 93 95 97 99 101

**1 mark**

### Question 3

Select the program that performs an existence check.

- A**    `choice = input()  
if(len(choice) > 20):  
    print("Invalid")`
- B**    `choice = input()  
if(choice < 3):  
    print("Invalid")`
- C**    `choice = input()  
if(choice <> ""):  
    print("Invalid")`
- D**    `choice = input()  
if(choice <> "yes" and choice <> "no"):  
    print("Invalid")`

1 mark

### Question 4

Select the commands used for exception handling in Python.

- A**    `try:  
    except:`
- B**    `try:  
    catch:`
- C**    `test:  
    except:`
- D**    `test:  
    catch:`

1 mark

### Question 5

Select the example of a logic error.

- A Spelling a key word incorrectly
- B Using addition instead of multiplication in a calculation**
- C Attempting to multiply a string with an integer
- D Reading from a text file that does not exist

1 mark

### Question 6

Which ONE (1) of the following is **not** a reason for a program using an external text file.

- A To load a previous program state
- B To store inputs for use in the program**
- C To store data for future use
- D To store data permanently

1 mark

### Question 7

Which ONE (1) of the following is a definition of the implementation stage of the software development lifecycle?

- A Writing the program code
- B Installing the program in the final place to be used**
- C Creating a flowchart for part of the system
- D Making sure the program meets requirements

1 mark

### Question 8

Select the output from this Python program:

```
theList = [1,2,3,4,5]
print(theList[1])
```

- A 1
- B 2**
- C 3
- D 4

1 mark

### Question 9

Select the program that will output the 3 times table from 1 to 12 (inclusive)

- A**
- ```
multiplier = 3
count = 0
while count < 13:
    print(multiplier * count)
    count = count + 1
```
- B**
- ```
multiplier = 3
count = 1
while count <= 13:
    print(multiplier * count)
    count = count + 1
```
- C**
- ```
multiplier = 12
count = 1
while count < 13:
    print(multiplier * count)
    count = count + 1
```
- D**
- ```
multiplier = 3
count = 1
while count < 13:
    print(multiplier * count)
    count = count + 1
```

**1 mark**

### -Question 10

Select the content of

```
from collections import Counter
theData = [5,5,6,8,4,5,1,2,3,6,5,9,6,3,2,5]
counterObject = Counter(theData)
print(counterObject)
```

**A** theData([5,5,6,8,4,5,1,2,3,6,5,9,6,3,2,5])

**B** theData = ({5: 5, 6: 3, 2: 2, 3: 2, 8: 1, 4: 1, 1: 1, 9: 1})

**C** Counter({5: 5, 6: 3, 2: 2, 3: 2, 8: 1, 4: 1, 1: 1, 9: 1})

**D** Counter = [1,2,2,3,3,4,5,5,5,5,5,6,6,6,8,9]

1 mark

### Question 11

Select the contents of theList after this program has run:

```
theList = [1, 5, 1, 2, 3, 6, 5, 8, 9, 6, 3]
for number in theList:
    if number >4:
        theList.pop()
print(theList)
```

**A** [1, 1, 2, 3, 3]

**B** [3, 6, 5, 8, 9, 6, 3]

**C** [1, 5, 1, 2, 3, 6, 5]

**D** [1, 1, 3, 5, 9, 3]

1 mark

### Question 12

Which ONE (1) of the following describes the purpose of a variable?

- A To store a set of values under one identifier that can be changed whilst the program is running
- B To store a single value that cannot be changed whilst the program is running
- C To store a single value that can be changed whilst the program is running.
- D To store a set of values under one identifier that cannot be changed whilst the program is running

1 mark

### Question 13

Select the program that reads data from an external file into a list.

- A 

```
myFile = open("TheFile.txt")
fileData = theFile.read()
myFile.close()
```
- B 

```
myFile = open("TheFile.txt",)
fileData = theFile.readline()
myFile.close()
```
- C 

```
myFile = open("TheFile.txt", "w")
fileData = theFile.read()
myFile.close()
```
- D 

```
myFile = open("TheFile.txt","a")
fileData = theFile.readline()
myFile.close()
count = count + 1
```

1 mark

### Question 14

Select the object-oriented program that creates a class and has the correct syntax for the constructor.

**A**    `class animal():`  
          `def __create__(self):`  
              `animalType = "horse"`

**B**    `class animal():`  
          `def constructor(self):`  
              `animalType = "horse"`

**C**    `class animal():`  
          `def __init__(self):`  
              `animalType = "horse"`

**D**    `class animal():`  
          `def new():`  
              `animalType = "horse"`

**1 mark**

### Question 15

Select a method of debugging a program.

- A**    Using a code editor
- B**    Using print statements
- C**    Using an interpreter
- D**    Using validation

**1 mark**





1 mark

### Question 20

Select the output from this Python program:

```
first = 10
second = 20
if first >= second:
    print(first + second)
else:
    print(first * 10)
```

A 10

B 20

C 30

D 100

1 mark

### Question 21

Select the most appropriate data type to store data for a flag that can be only two values.

A String

B Boolean

C Char

D Integer

1 mark

### Question 22

Which ONE(1) of these constructs is a bounded loop.

A if

B for

C repeat

D while

1 mark

### Question 23

Select the definition of concatenation.

A Join two strings into one string

B Add two values together

- C Send a value from one function to another function
- D Convert data from one data type to another data type

1 mark

### Question 24

Select the program that will output the string "Var".

A `myString = "Variable"`  
`print(myString[:3])`

A `myString = "Variable"`  
`print(myString[:-3])`

A `myString = "Variable"`  
`print(myString[3:])`

A `myString = "Variable"`  
`print(myString[3])`

1 mark

### Question 25

Select the result from this calculation:  $51 \% 7$

A 0.2857

B 2

C 7

D 7.2857

1 mark

### Question 26

Select the purpose of abstraction.

A To produce reusable components

B To catch run-time errors

C To validate changes to data

D To remove data and information that is not required

1 mark

### Question 27

Select the output from this Python program:

```
myString = "Python"  
print(myString[-1])
```

A "P"

B "ython"

C "n"

D "Pytho"

1 mark

### Question 28

Select the output from this Python program:

```
one = 5  
two = 10  
three = 5  
if one == two or two == three:  
    print(100)  
elif one == two and two > 10:  
    print(200)  
else:  
    print(300)
```

A 100

B 200

C 300

D 400

1 mark

### Question 29

Select the number of times this loop will run:

```
word = "Computer science"  
for count in range(len(word)):  
    print(count)
```

A 13

B 14

C 15

D 16

1 mark

### Question 30

Select the type of data that will be returned from the function `isalpha()`

A Char

B Boolean

C String

D Float

1 mark

**End of paper**

## Learning Outcomes matrix

Question	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1 - 30	All	Yes

## Grade descriptors

Learning Outcome	Pass	Merit	Distinction
Describe and apply a systematic approach to the design of programs	Demonstrate adequate ability to Discuss the development of the Digital Computer and its characteristics	Demonstrate sound and consistent ability to differentiate and recognise components	Demonstrate exceptional ability to differentiate and recognise components
Write small procedural programs to perform well-defined tasks, following well-defined requirements	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Test and document program code following the principles of software engineering	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Describe and apply the benefits of modular software design.	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard