G.C.E. (A/L) ICT – Python Control Structure Questions (2019–2024)

This booklet collects past G.C.E. (A/L) ICT questions related to Python control structures from 2019 to 2024. It's meant to help students and teachers review programming ideas, see how exam questions are asked, and practice writing, tracing, and debugging Python programs that use selection and loops.

2019 – New Syllabus

Flowchart and Python Program Comparison (Questions 40–42)

Q40. To make this algorithm work properly, what should go in the blank labeled *P*?

```
Start
input list L
input K
count = 0
i = 0
n = length of list

Is L[i] = K ?
i = i + 1
output count
Stop
.........................
```

(1) n = n - 1 (2) n = n + 1 (3) count = count + 1 (4) count = count + i (5) count = count + n

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Q41. For the same algorithm, what should go in the blank labeled *Q*?

(1) Is i < n? (2) Is i = n? (3) Is count < n? (4) Is count < K? (5) Is n > 0?

Q42. Which of these Python programs performs the same task as the flowchart?

I

```
L = [int(x) for x in input().split()]
K = int(input())
count = 0
for i in range(len(L)):
    if L[i] == K:
        count = count + 1
print(count)
```

II

```
L = input().split()
K = input()
count = 0
n = len(L)
for i in range(n):
    if L[i] == K:
        count = count + i
print(count)
```

III

```
L = [int(x) for x in input().split()]
K = int(input())
count = i = 0
while i < len(L):
    if L[i] == K:
        count = count + 1
print(count)
```

(1) Only I (2) Only II (3) Only I and II (4) Only I and III (5) All I, II and III

2020 – New Syllabus

Q39. What does this Python program print if the input is 100?

```
n = int(input())
if n > 0:
    m = "Z"
    if n > 10:
        if n > 100:
            m = "A"
        elif n < 50:
            m = "B"
        else:
            m = "C"
    else:
        m = "D"
print(m)
```

(1) A (2) B (3) C (4) D (5) Z

Q40. What is the output of this code?

```
x = 1
y = 100
while x < 100:
    y = y - x
    x = x + 1
    if (x + y) < 90:
        break
print(y)
```

(1) 100 (2) 85 (3) 79 (4) 72 (5) 7

2021 (2022)

Loops and Flowcharts (Questions 39–41)

This problem takes an integer n and then reads n numbers. It counts how many of those numbers are less than 100. Figure out the result for a given set of inputs and choose the Python code that matches the flowchart.

2022 (2023)

Q36. The flowchart includes this condition:

```
if n < 0 then r = a * 2 else if a >= 0 then r = a + 1 else r = a - 1
```

Find the correct result for the given values.

Q37. What does this code print?

```
a = 10
b = 4
c = 7
ans = a % b + c // (a - b)
print(ans)
```

(1) 3 (2) 5 (3) 7 (4) 9 (5) 11

2023 (2024)

Q43. How many stars does this program print?

```
i = 7
while i > 0:
    i -= 3
    print('*')
    if i <= 2:
        break
    else:
        print('*')
```

(1) 1 (2) 3 (3) 5 (4) 7 (5) 9

Q45. What does this program output?

```
for i in range(1, 4):
    for j in range(1, i + 1):
        print(j * i, end=' ')
    print()
```

(1) 1 (2) 1 2 (3) 1 2 3 (4) 1 2 3 with nested loops (5) Output shows a multiplication pattern.

2024

Q40. What is the output of this program?

```
def list_operation(nlist):
    for i in range(len(nlist)):
        if i % 2 == 0:
            nlist[i] = nlist[i] ** 2
        else:
            nlist[i] = nlist[i] + 3
    return nlist

numbers = [1, 2, 3, 4, 5]
output = list_operation(numbers)
print(output)
```

(1) [1, 2, 3, 4, 5] (2) [1, 5, 9, 7, 25] (3) [2, 5, 6, 7, 10] (4) [4, 4, 6, 16, 8] (5) [4, 6, 16, 8, 36]

Q41. What names are printed when this code runs?

```
marks = [(1, "amara", 96), (2, "rajah", 34), (3, "rani", 49), (4, "fahim", 68)]
i = -1
while i < (len(marks) - 1):
    i += 1
    if marks[i][2] < 50:
        continue
    print(marks[i][1], end="  ")
```

(1) 1 4 (2) 1 amara 4 fahim (3) amara fahim (4) rajah (5) rajah rani

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Q42. Reading Files and Using If Statements

```
P = open('exports_imports.txt', 'r')
while True:
    Q = P.readline()
    if not Q:
        break
    item = Q.split()
    if item[1] == 'E':
        print(item[0], ':', item[2])
P.close()
```

This program prints lines where the second column equals ‘E’.

Conclusion

You can use this question set for A/L exam preparation or extra programming practice. It’s great for reviewing how Python uses loops and decisions to solve problems. Work through the examples to build your confidence in debugging and logic tracing.

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Prepared for educational use under the G.C.E. (A/L) ICT curriculum.