Information and Technology – Competency 9

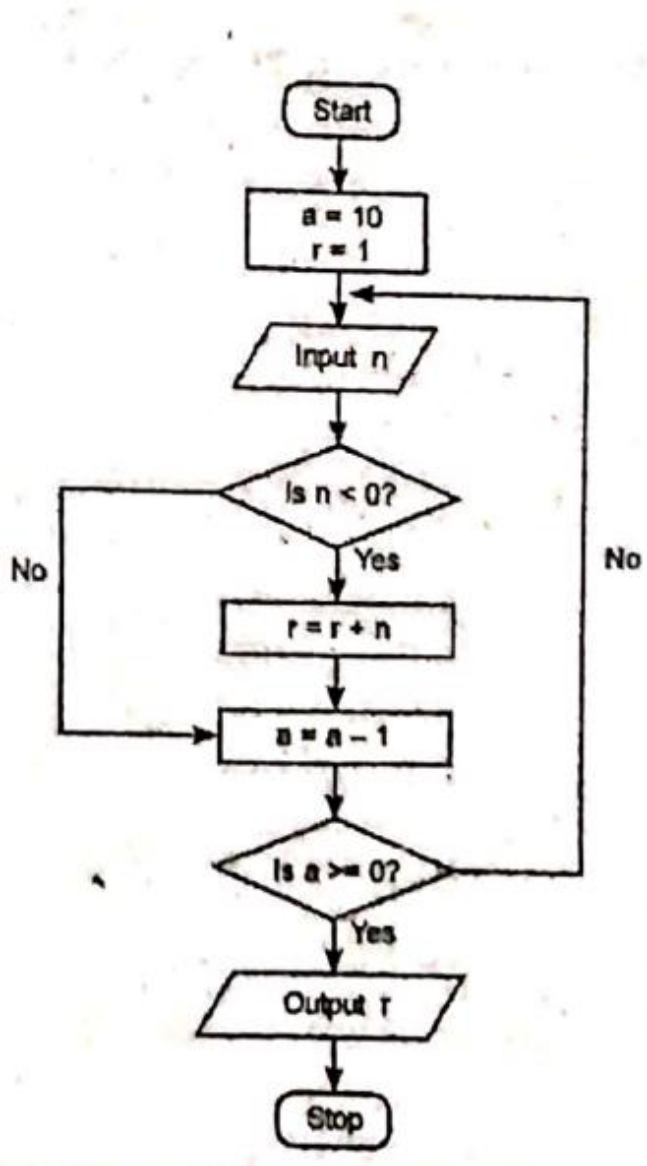
(Past papers 2011 - 2022)

No - 08

2022 A/L

1. Which of the following statements is/are correct about the algorithm expressed by the given flowchart?

   A. An input is taken from the user only once.
   B. The output of algorithm is always 9.
   C. The algorithm outputs the summation of all the number entered.



1) A only
2) B only
3) C only
4) A and B only
5) B and C only

2. What would be the output of the following Python code if the input was 25?

```
x = int(input())
x = (x * (x - 21)) **3
print(x)
```

1. 0 2) 1 3) 3 4) 12 5) 25

3. What would be the output of the following Python code?

```
def fun(para1, para2):
    x=foo(para2, para1)
    return x

def foo(para3, para4):
    return para3 - para4

result=fun(2, 4)
print("Result is " + str(result))
```

1. Result is 0
2. Result is 2
3. Result is -2
4. Result is (2,4)
5. Result is +2

4. What would be the output of the following Python code?

```
def foo(name, age=18, address="Kandy"):
    print(name, address, age)

foo("Nimal", 25, "Colombo")
```

1. Nimal Colombo 25
2. Nimal, Colombo, 25
3. Nimal, Kandy, 18
4. Nimal Kandy 18
5. Nimal 18 Kandy

5. What would be the output of the following Python code?

```
numbers=[10, 20, 30, 40, 50]
numbers.pop(1)
numbers.append(60)
numbers.pop(2)
print(numbers)
```

1. [10, 50, 60]
2. [10, 20, 40, 60]
3. [10, 30, 50, 60]
4. [20, 30, 40, 50]
5. [20, 30, 50, 60]

6. What would be the output of the following Python code?

```
val = 9
for  i  in  range(5):
    for  j  in  range(2, 3, 1):
        val  += 1
        if  (val % 2) == 0:
            continue
            val  += 2
        else:
            val  += 2
print(val)
```

1. 18
2. 24
3. 29
4. 38
5. 39

6. Which of the following is/are correct regarding Python functions?
   A. A Python function can return a data structure that contains multiple values.
   B. A Python function can be used without passing any parameters to it.
   C. Parameters can be passed to a Python function by value or by reference.

   1) B only
   2) C only
   3) A and C only
   4) B and C only
   5) All A, B and C

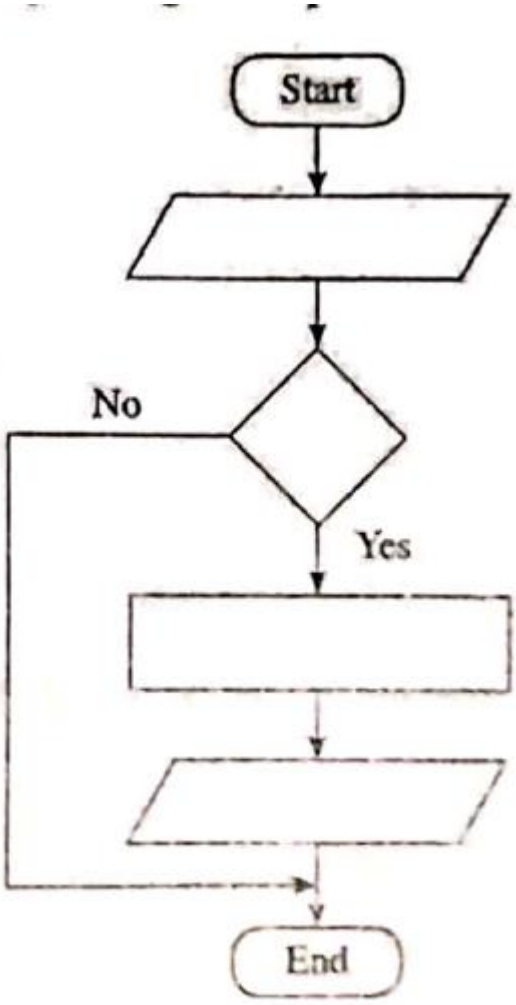
2022 A/L

1) (a) A flowchart is to be drawn for an algorithm to calculate and output the area of a circle.

Note: Area of a circle = 3.14 x Radius x Radius

The algorithm should not calculate the area if the input is a negative number.

Complete the flower chart by writing the required content for the four (4) components left blank.



b) What is the output of the following Python code?

```
S = "Advanced level"
Sl = ""
for c in S :
    if c in ( "a" , "e" , "i" , "o" , "u" ):
        pass
    else:
        Sl = Sl + c
print (Sl)
```

(c) What code line(s) in part (b) is /are to be removed to get ‘neee’ as the output?

……
……
……

(d) Fill in the blanks spaces of the following Python code assuming that the purpose of the code is to copy the content of a text file (A) to another text file (B).

```
A = input("Enter the name of text file A")
B = input("Enter the name of text file B")

f1 = ..... (A, .....)

f2 = ..... (B, .....)

for line in ..... :

    f2.write (.....)

f1.  .....

f2.  .....
```

2) (a) (i) What is the output of the following Python script if 1002 is given as the input?

```
A = int(input("Enter a number:"))
B = 0
while(A > 0):
    C = A % 10
    B = B + C
    A = A // 10      # // is integer division
print(B)
```

(ii) What would be the modification required to the B = B + C code line of the above code if the reverse of a given positive number is to be printed?

(Example: if the input is 1234, the output should be 4321)

(b) Assume that your class is having a party, and each student is asked to bring one food item. The class teacher has decided to make the party interesting by introducing one rule: the first and last letters of the name of the food item must match with the first and last letters of the student name.

For example, *percy* is allowed to bring *potato curry* and *prageeth* is allowed to bring *pepper fish*.

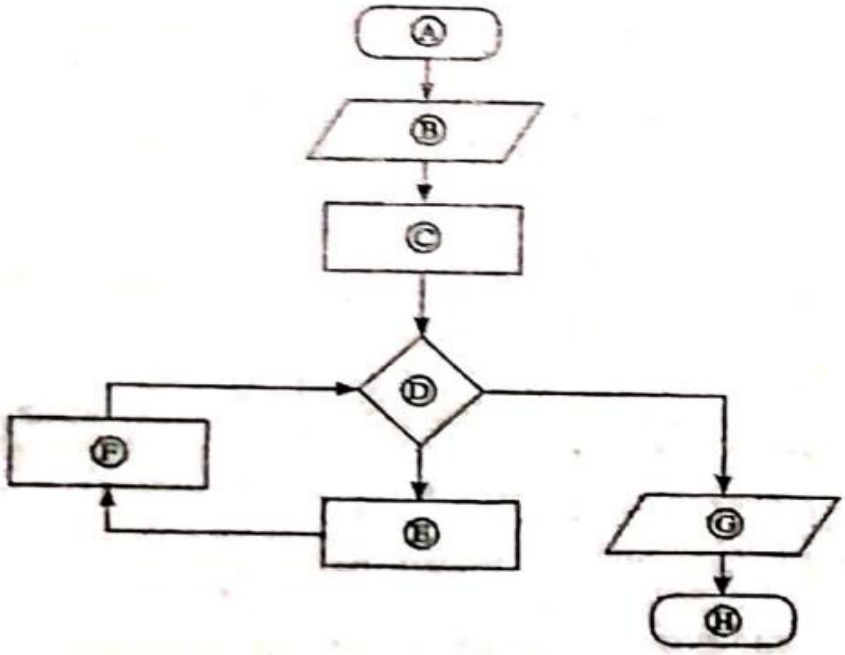
Write a Python function called **Party()** that takes the student name and the name of the food item as parameters. The function should return **True** or **False** to indicate whether the student is allowed to bring the food item to the party or not.

Example:

```
Party ("percy", "potato curry") should return True
Party ("fareena", "fried rice") should return False
```

Note: You can assume that student name and food item name are always lowercase strings and have at least two letters. There may be hyphens and spaces in the names, but these will not appear at the beginning or end of the string. The names will not contain numerals.

(c) Write down the most suitable statements for labels (A) to (H) in the flowchart given below which is drawn to calculate the factorial of a given positive integer.



Note:

(i) The factorial of a positive integer is defined as the product of that integer and all the integers below it. E.g. factorial of 5 is 5 x 4x 3 x 2 x 1 =120. The factorial of 0 is defined as 1.

(ii) A process box in this flowchart may contain one or more statements.