



"Investing in Africa's Future"

COLLEGE OF ENGINEERING AND APPLIED SCIENCES (CEAS)

NCSC 114: PRINCIPLES OF PROGRAMMING LANGUAGES

END OF SECOND SEMESTER EXAMINATIONS

APRIL 2025

LECTURER: MS ELIZABETH MAFU

TIME: 3 HOURS

INSTRUCTIONS

Use the IDE you are familiar with to answer the questions

Copy the code and take a screenshot of the output to word document

Save the scripts and the pdf document in one folder

Convert the document to pdf and save in the storage device provided

Answer five (5) questions

Question 1

- a. Write a Python GUI program to import Tkinter package and create a window and set its title. [5]
- b. Write a python script of a function that returns a square of a number. [5]
- c. Define a function that can accept two strings as input and concatenate them and then print it in console. [5]
- d. Write a Python program to print the following string in a specific format (see the output). [5]

Sample String : "Twinkle, twinkle, little star, How I wonder what you are! Up above the world so high, Like a diamond in the sky. Twinkle, twinkle, little star, How I wonder what you are"

Expected Output :

```
Twinkle, twinkle, little star,  
    How I wonder what you are!  
        Up above the world so high,  
            Like a diamond in the sky.  
Twinkle, twinkle, little star,  
    How I wonder what you are
```

Question 2

Create the following table in excel and convert to csv. Write a Python program to read each row from the csv file and print a list of strings. [20]

student_id	programme	fees_paid	gender
20001	marketing	1000	F
21043	software engineering	1500	F
20132	software engineering	800	M
23001	computer science	950	F
21213	theology	1000	M

Question 3

Write a Python program to create a calculator class. Include methods for basic arithmetic operations. [20]

Question 4

Write a Python program to create a Tkinter-based login form with input fields for userid and password. [20]

Question 5

Write a Python program to check if a triangle is equilateral, isosceles or scalene.

Note :

An equilateral triangle is a triangle in which all three sides are equal.

A scalene triangle is a triangle that has three unequal sides.

An isosceles triangle is a triangle with (at least) two equal sides.

Expected Output:

Input lengths of the triangle sides:

x: 6

y: 8

z: 12

Scalene triangle

[20]

Question 6

Write a Python function that takes two lists and returns True if they have at least one common member. [20]

END OF EXAMINATION