NATIONAL UNIVERSITY
OF COMPUTER & EMERGING SCIENCES
PESHAWAR CAMPUS

Problem Set:	Semester Project	**Semester**:	Fall 2020
Points:	*See autograder*		
Date Set:	*See autograder*	**Due Date**:	*See autograder*
Course:	CS118 Programming Fundamentals	**Instructor**:	Sara Rehmat

1 Basketball Court

Consider that Ali has just purchased a plot in Hayatabad of width “plot_width” and length “plot_length”. Ali is a well known basketball player in FAST NUCES. Ali wants to enhance his basketball skills. Therefore Ali wants to convert that to a basketball court. For that, Ali first has to install tiles on the plot. The tiles Ali has purchased have width “tile_width” and length “tile_length”. Consider that the plot’s surface is already leveled and is ready for tiles installation. Ali is also too conscious about the basketball court. Ali doesn't want to break the tile into pieces either it is fully fit or it is not fit in the plot area.

1.1 Tasks to do

There are three main tasks to complete:

1. Write a function with the name “calculateArea” that takes in two inputs (width and length) and return the area.
2. Write a function with the name “checkTilesFit” which takes in four inputs (plot_width, plot_length, tile_width, tile_length) and checks the tiles with the length and width given in the parameter fit into the area of the plot, If yes then this function return “True” else this function return “False”.
3. Finally, write a function with the name “calculateTiles” that takes in four inputs (plot_width, plot_length, tile_wdith, tile_length) and returns the number of tiles required to cover the whole plot without breaking the tiles. The number of tiles should be an integer not a float.
    a. If the type of any of the parameters is “str”, return “Invalid Input”.
    b. If the value of any of the parameters is zero, return None.
    c. You have to call the “checkTilesFit” function, If this “checkTilesFit” function returns “True” then you need to return the number of tiles after calculating the number of tiles else you have to return “Not Possible”.

Hint is on the next page.

Hint: Try to do yourself, do some simple maths and do not break the maths rules.