Northern Michigan University (Marquette Co, MI)

Time: 50 minutes.

1. Write the following method in Kotlin:

fun Diagonal (A:Array<String>):String { ... }

A is an array of string such the length of each string in the array is the same as the length of the array itself. For example, if the array is of length 3, then each string in the array is also of length 3. Write a method that returns a string consisting of the first character of the first string, the second character of the second string, the third character of the third string, and so forth, all concatenated together. For example, if the array were {"FIVE","DOGS","HATE","CATS"}, the method would return "FOTS".

2. It is a real pain in the neck that the various Layouts (such as LinearLayout) do not allow you to have much control over where to put your widgets in an Android app, while Xcode lets you put anything you want pretty much anywhere in an iPhone/iPad app. But what is a GOOD reason for Android to have a more rigid way to define your layout? Put another way, what is a GOOD reason for NOT allowing you to just stick your stuff anywhere you want?

Northern Michigan University (Marquette Co, MI)

3. My app has a button myButt, and a text views myWord and myCount linked in the XML to fields called button1, TV1, and TV2 respectively. Write that portion of onCreate that will link the Kotlin widgets to the XML definitions and defines the button so that clicking on it will do the following: it will count all the digits in myWord and place that count in myCount. For example, if myWord contains "I can lick 50 tigers today.", "2" will be placed in myCount, since there are two digits, the 5 and the 0, in myWord.

4. We have two buttons (myButt1 and myButt2) in the main activity of an android app. When I click myButt1, AActivity should run. When I click myButt2, BActivity should run. However, each time I click either button, the buttons should swap activities. So, the second time I click anything, myButt1 runs BActivity and myButt2 runs AActivity. The third time I click anything, myButt1 runs AActivity and myButt2 runs BActivity, and so forth.

Write the code within these two activities and the main activity that will make this work.