

EEOS 472 – Programming for GIScience Applications – Spring 2011

Exercise 19A

Additional Instructions/Notes

1. For all exercises in this course, you will want to make a copy of the exercise .mxd to your H:\ space and open that, rather than using the one in the course data directory on S:\ because the exercises almost always involve customizing the project document, which you cannot do to the one on S:\, since you do not have write access there.

Question 19A-1 (2 marks)

Layouts are made up of elements. In previous GIS coursework, you have probably noticed that some elements automatically update and change when the underlying Map View is changed, and some do not. Which elements automatically update, and which do not, and what implications does this have for writing code to create layouts?

Exercise 19B

Additional Instructions/Notes

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Question 19B-1 (2 marks)

You may be wondering why the name property for elements is on an interface named IElementProperties2 (or even why there are IElementProperties, IElementProperties2, and IElementProperties3 interfaces). Remember that for reasons of consistency, once an interface is established in VBA, its structure remains consistent in the future in perpetuity. If changes need to be made (i.e. other functionality added), they can be made through establishing a new interface.

What other properties are located on the IElementProperties2 interface (hint: you can look on the ArcMap Object Model.pdf)?

Exercise 20A

Additional Instructions/Notes

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Question 20A-1 (2 marks)

The field coclass' two interfaces, IField and IFieldEdit, are designed to separate the functions of getting and setting properties. However, IFieldEdit inherits from IField. What does this mean for the ability to get and set properties with each of these interfaces (i.e. can you truly only get properties with one interface, and only set properties with the other)?

Question 20A-2 (1 marks)

In this exercise, we placed our Add Fields button on the feature layer context menu. What potential problem have we solved by placing this control here rather than elsewhere?

Exercise 20B

Additional Instructions/Notes

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Question 20B-1 (5 marks)

Knowing how to write data to tables is perhaps the most useful application of coding ArcGIS applications in VBA. Many repetitive data creation tasks can be automated once you know how to do this, provided you can come up with some way to write the code to fill in the values (set them, in VBA parlance). In the exercise, you are introduced to the method to loop through all the features in a table with a Do Until loop.

Suppose we have a text field (“SoilName”) that contains the names of four soils, which we know correspond to various soil textures:

<u>SoilName</u>	<u>Texture</u>
Thornhill	Silt Loam
Richmond Hill	Sandy Loam
Markham	Loam
Unionville	Clay Loam

Write the VBA code that will loop through all the features in the table, get the soil name for the polygon from the “SoilName” field, and write the appropriate value (i.e. set it) for each record in another text field (“Texture”). Use correct ArcGIS VBA syntax.