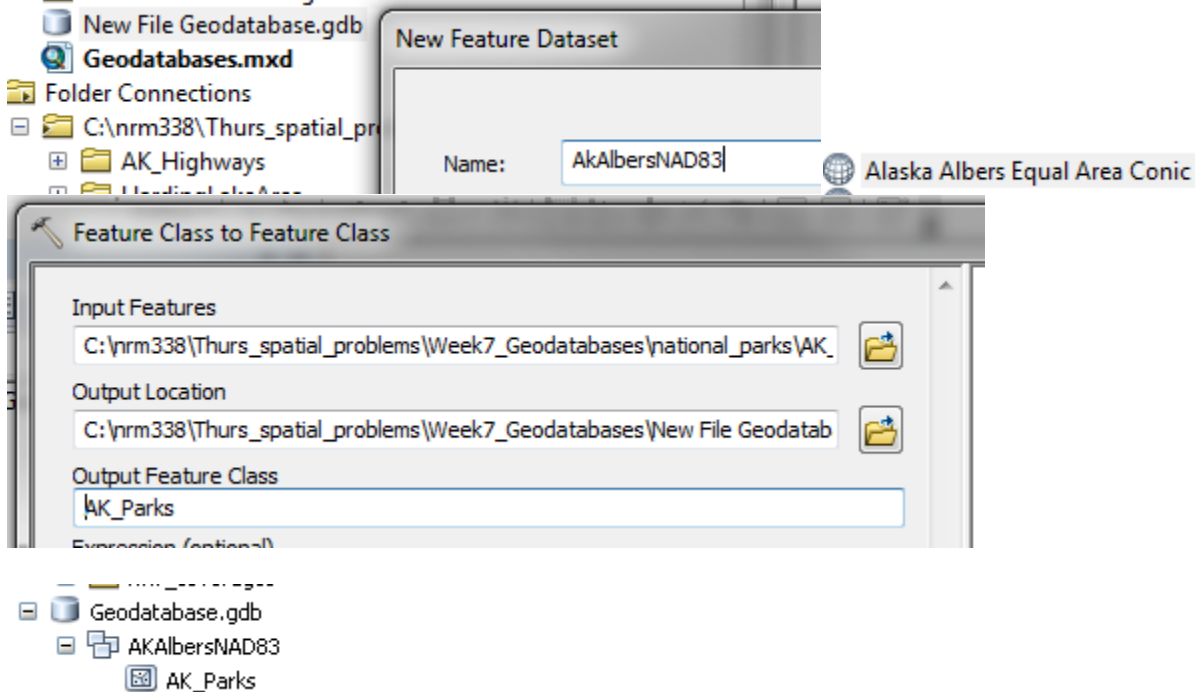


### Thursday's Geodatabase Problems

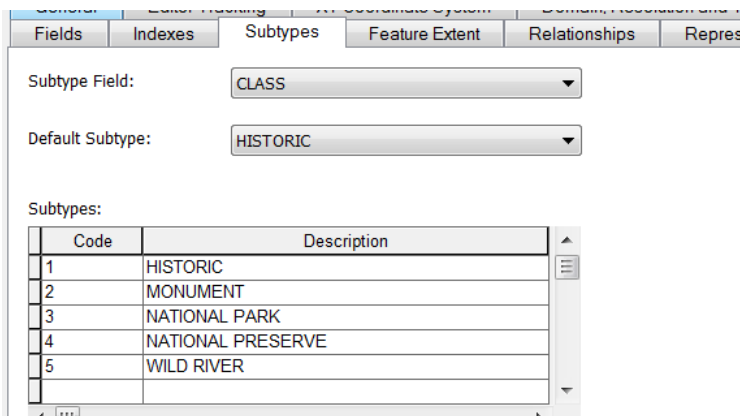
Download and unzip **Week7\_Geodatabases.zip** from the class website [http://dverbyla.net/nrm338/blackboard\\_data/](http://dverbyla.net/nrm338/blackboard_data/)

#### . Different Coded Domain Depending on Subtype

The shapefile AK\_parks contains a field Unit\_Type. Create a geodatabase feature dataset in Alaska Albers NAD83 and then project your shapefile to your feature dataset



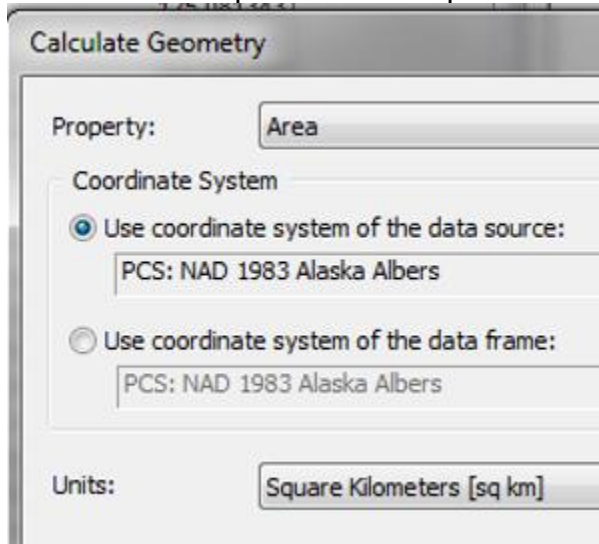
Create a subtype named Type using the Unit\_Type field. A subtype has to be an integer field, so add an integer field named Class and calculate values 1 through 5 for that field. Then create your subtype



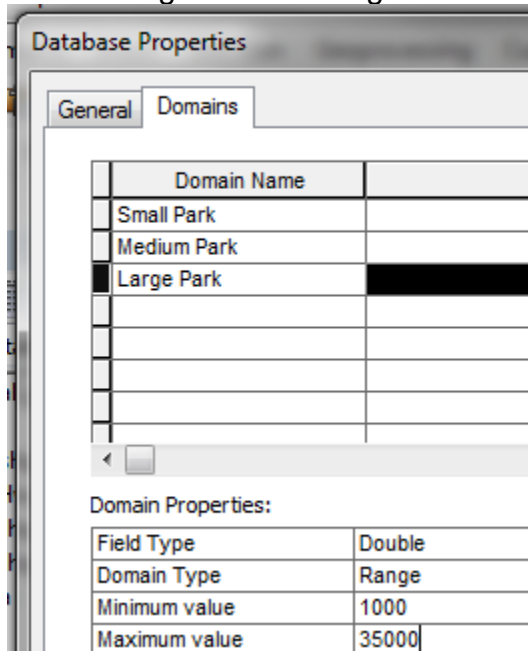
<Heading>	CLASS
1	HISTORIC
2	MONUMENT
3	NATIONAL PARK
4	NATIONAL PRESERVE
5	WILD RIVER

Then create and assign range domains for square km depending on your subtype:

- 1) Create and compute field for square KM



- 2) Create range domains in geodatabase:



- 3) Create subtypes and assign range domain to each subtype

Subtypes:

Code	Description
1	Historic Park
2	Monument
3	National Park
4	National Preserve
5	Wild River

Default Values and Domains:

Field Name	Default Value	Domain
UNIT_TYPE		
UNIT_NAME		
Shape_Length		
Shape_Area		
KM2		Small Park

Subtype	Range Domain Name	Range Values
Historic Park	Small Park	0.1 – 200 sq. km
Wild River	Small Park	0.1 – 200 sq. km
National Monument	Medium Park	200 – 3000 sq. km
National Park	Large Park	1000 – 35000 sq km
National Preserve	Large Park	1000 – 35000 sq km

Based on these subtypes and range domains, are there any polygons that do not meet these criteria?

Validate Features

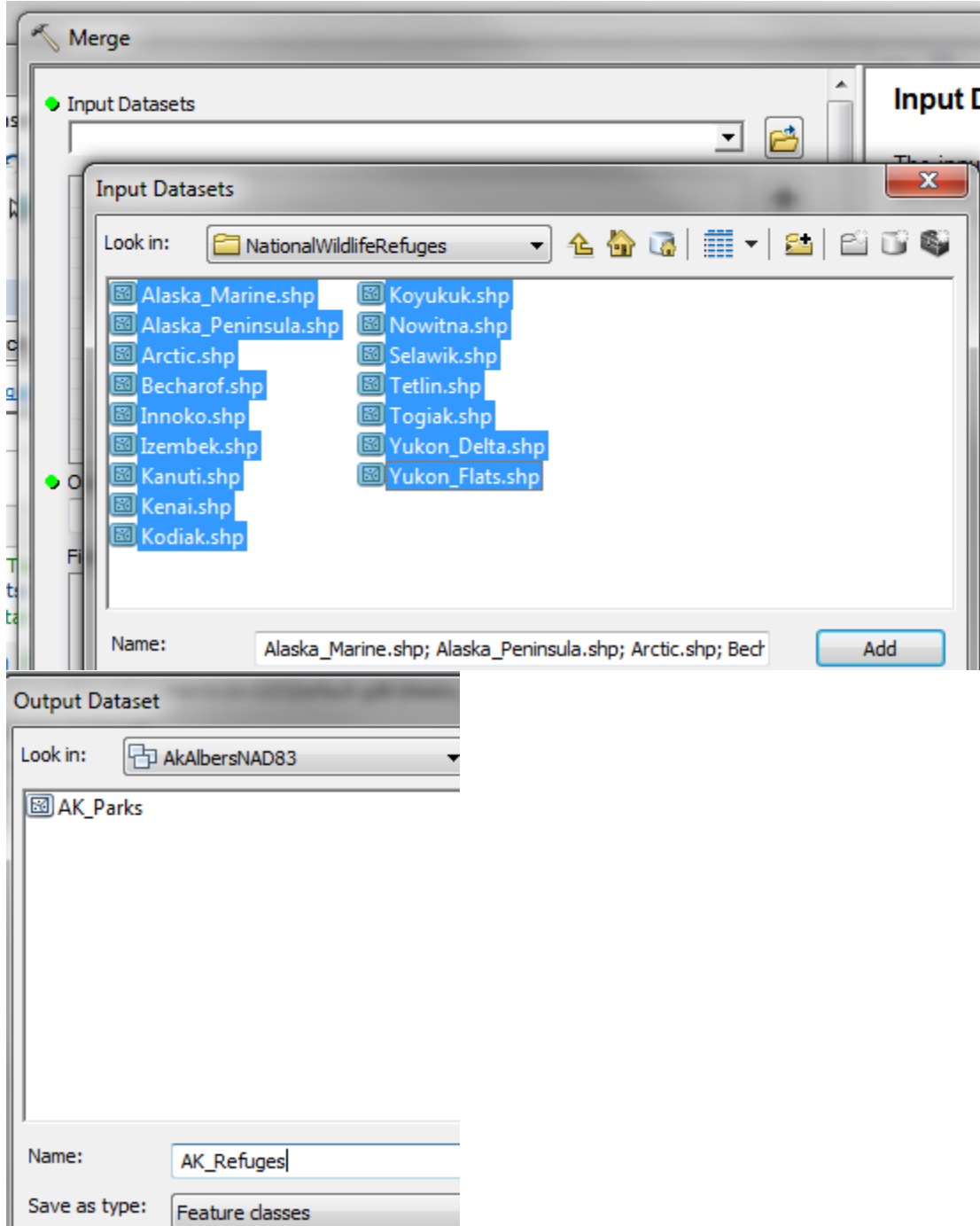
Field KM2 attribute value 234.832511 is not within range of 1000 and 35000 of range domain Large Park.

Type	KM2
Wild River	125.081343
National Preserve	1886.396215
Monument	555.835227
National Preserve	11270.942882
Monument	2628.3271
National Park	18976.211048
National Preserve	5413.990292
National Park	30459.008186
National Preserve	3826.903466
National Park	13054.024917
National Preserve	234.832511
National Park	14918.633123
National Preserve	1672.059312
National Park	2699.684737
Historic Park	52.579191
National Park	7080.233847

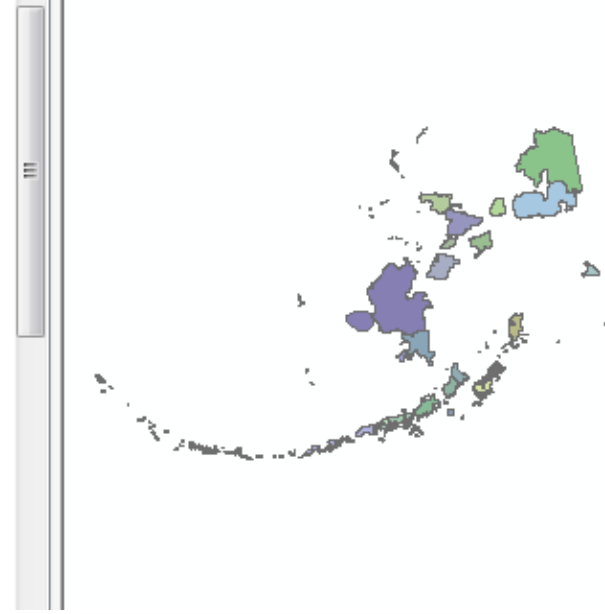
### National Wildlife Refuges and National Parks

The folder NationalWildlifeRefuges contains a polygon shapefile for each refuge boundary. Create a feature class representing Alaska National Wildlife Refuges in your feature dataset.

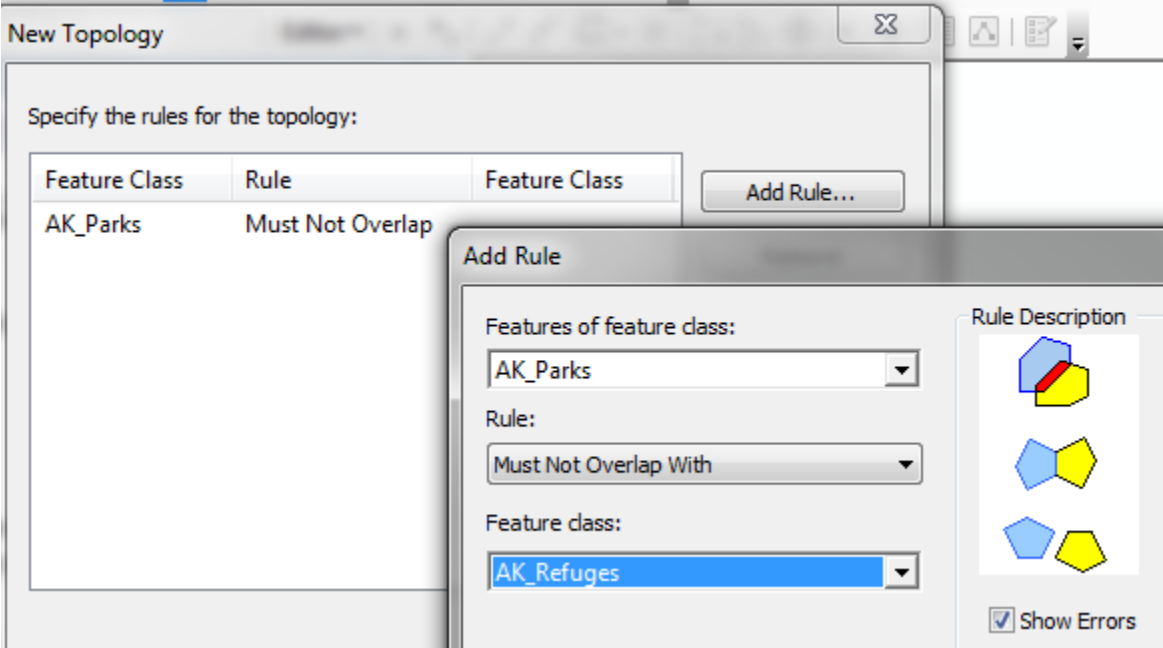
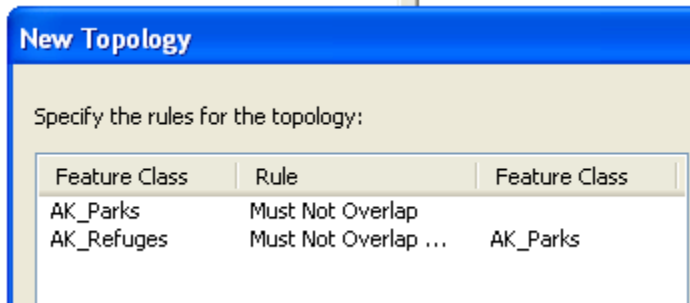
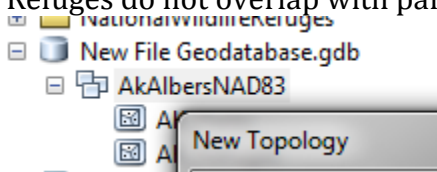
- AKAlbersNAD83
  - AK\_Parks
  - AK\_Refuges

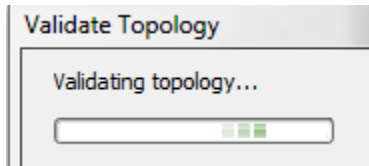


- AK\_Refuges
  - UNIT
  - Selawik
  - Yukon Delta
  - Yukon Flats
  - Afognak Island
  - Alaska Peninsula
  - Aleutian Islands
  - Arctic
  - Becharof
  - Bering Sea
  - Cape Newenham
  - Chignik
  - Chukchi Sea
  - Gulf of Alaska
  - Innoko
  - Izembek
  - Kachik



- Create topologies testing that
- 1) Park polygons do not overlap each other.
  - 2) Refuges do not overlap with parks



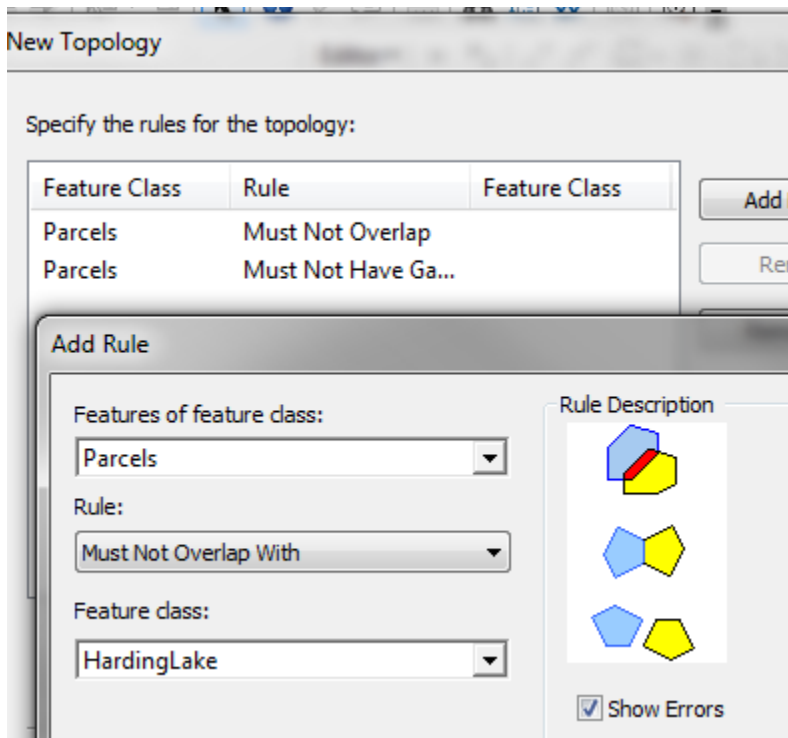
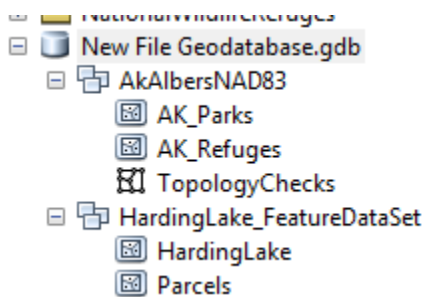


### Parcels Near Harding Lake

The shapefiles in the HardingLakeArea folder were downloaded from the Fairbanks Northstar Borough GIS.. Create a geodatabase topology to test that

- 1) none of the parcel polygons overlap
- 2) parcel polygons must not have gaps
- 3) none of the parcel polygons are in Harding Lake.

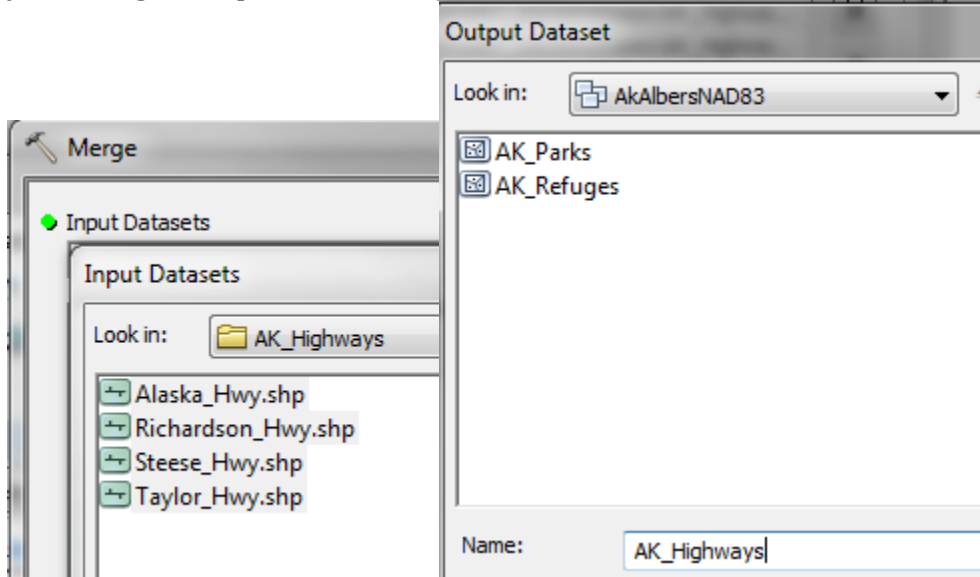
Apply these topology rules to check for these spatial relationships.



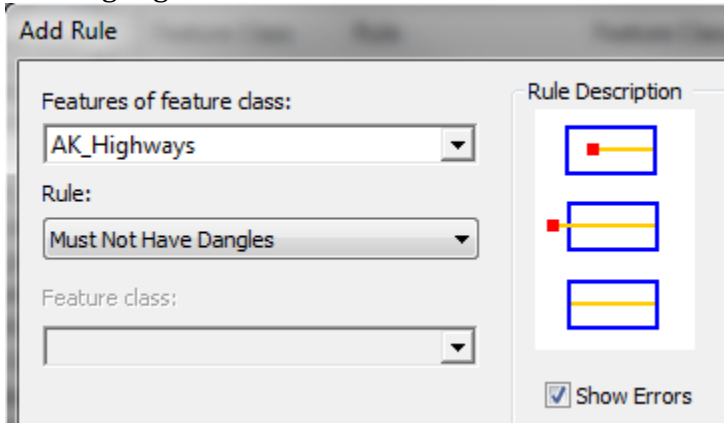
Must Not Have Gaps Parcels	6
Must Not Overlap Parcels	0
Must Not Overlap With Parcels, HardingLake	0

### Alaska Higways

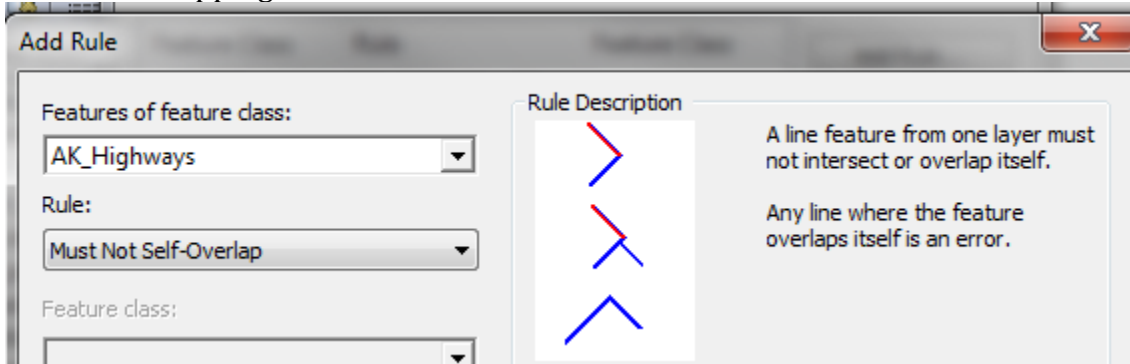
The shapefiles in the AK\_Highways folder contains a line shapefile for some interior Alaska highways. Merge these line shapefiles into one shapefile. Then create a geodatabase and import your merged shapefile into the geodatabase. Create a topology and check for the following:



1) No dangling nodes?



2) No self-overlapping lines?



3) No self-intersecting lines?



