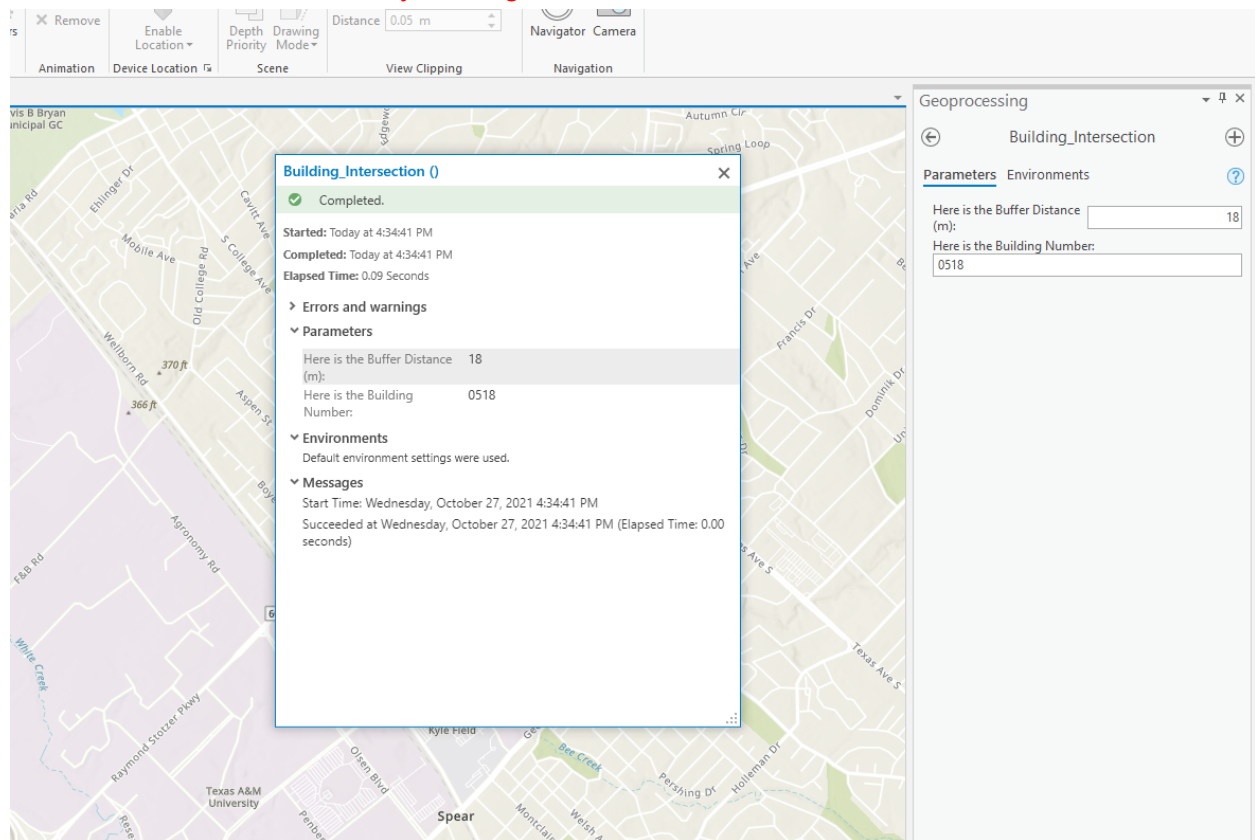
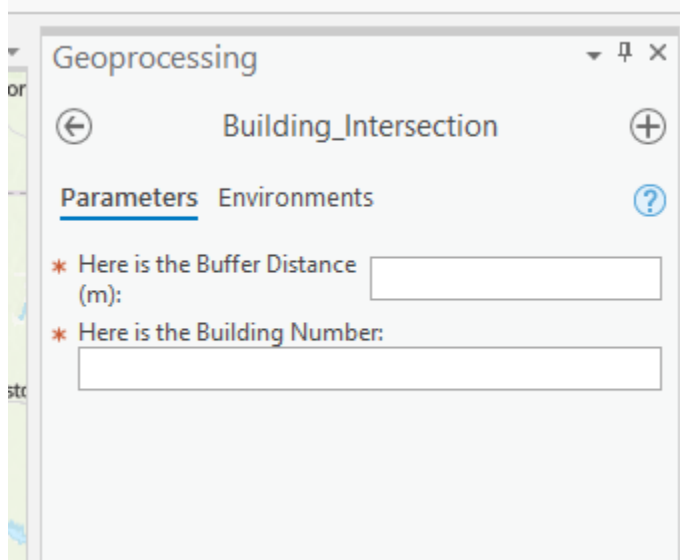
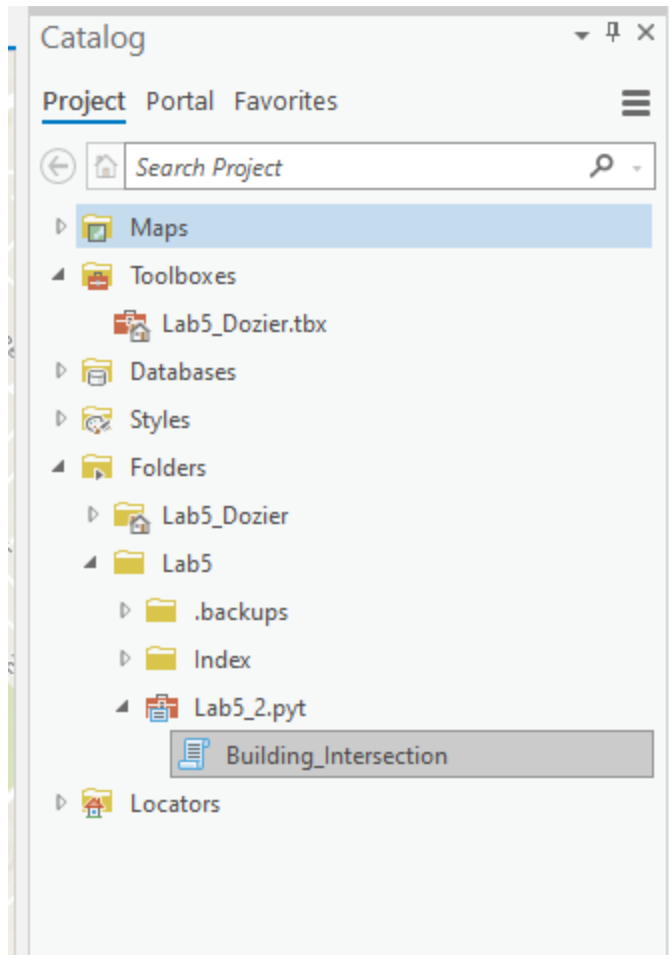


Screenshot of Tool successfully running in ArcGIS Pro:



Screenshot of Toolbox in ArcGIS Pro:



Screenshot of Tool code:

## Garrett Dozier - GEOG 392 - Section: 501 - LAB 5

```
Lab4_Dozier.py  Lab5_Dozier.py X  Lab5.2.pyt
C:\Users\seths> Documents > Dozier > Lab5 > Lab5_Dozier.py > ...
1  # Importing Arcpy and overwriting the environment
2
3  import arcpy
4  arcpy.env.overwriteOutput = True
5
6  # Declaring a few variables to make it easier within the rest of the code
7  Lab4GDB = r"C:\Users\seths\Documents\Dozier\Lab4\Lab4GDB.gdb"
8  Structures = Lab4GDB + r"\Structures"
9
10 # creating inputs for the building number and buffer distance
11 building_num = int(input("Enter a building number: "))
12 buff_dist = int(input("Enter a buffer distance: "))
13
14 # where clause variable for the building number
15 where_clause = "Bldg = '%s'" % building_num
16
17 #creating a search cursor and actually checking to see if the building is there
18 scurs = arcpy.SearchCursor(Structures, where_clause=where_clause)
19 canProceed = False
20
21 for row in scurs:
22     if row.getValue("Bldg") == building_num:
23         canProceed = True
24
25 if canProceed == True:
26     arcpy.Select_analysis(
27         Structures,
28         Lab4GDB + "\Structures_building_%s" % (building_num)
29     )
30
31     arcpy.Buffer_analysis(
32         Lab4GDB + "\Structures_building_%s" % (building_num),
33         Lab4GDB + "\Structures_building_%s" % (building_num, str(buff_dist)),
34         buff_dist
35     )
36
37
38
39
40
41
42
43
44
45
46
47
48
49
```

```
Lab5_Dozier.py - Visual Studio Code
Lab4_Dozier.py  Lab5_Dozier.py X  Lab5.2.pyt
C:\Users\seths> Documents > Dozier > Lab5 > Lab5_Dozier.py > ...
17 #creating a search cursor and actually checking to see if the building is there
18 scurs = arcpy.SearchCursor(Structures, where_clause=where_clause)
19 canProceed = False
20
21 for row in scurs:
22     if row.getValue("Bldg") == building_num:
23         canProceed = True
24
25 if canProceed == True:
26     arcpy.Select_analysis(
27         Structures,
28         Lab4GDB + "\Structures_building_%s" % (building_num)
29     )
30
31     arcpy.Buffer_analysis(
32         Lab4GDB + "\Structures_building_%s" % (building_num),
33         Lab4GDB + "\Structures_building_%s" % (building_num, str(buff_dist)),
34         buff_dist
35     )
36
37     arcpy.Intersect_Analysis(
38         [
39             Lab4GDB + "\Structures_building_%s" % (building_num, str(buff_dist)),
40             Lab4GDB + "\Structures"
41         ],
42         Lab4GDB + "\Structures_building_%s_intersect" % (building_num, str(buff_dist)),
43         "All"
44     )
45
46
47
48
49
```

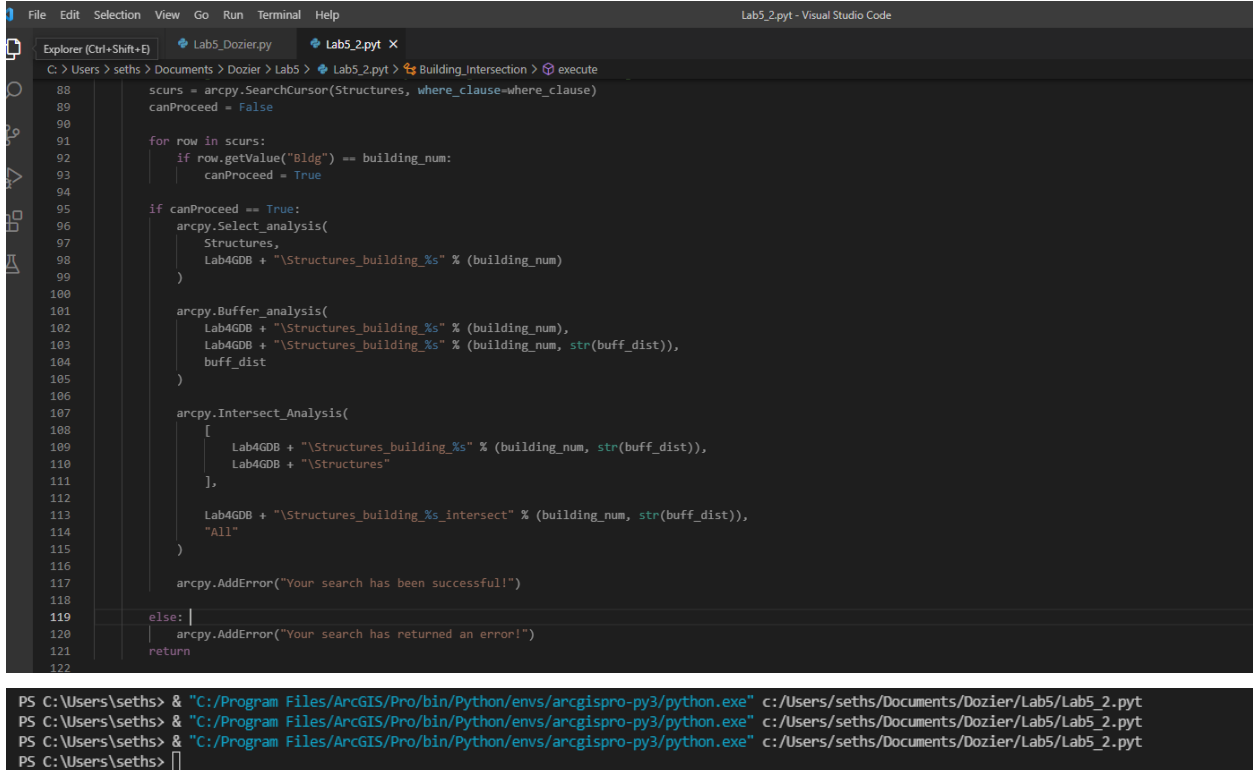
```
PS C:\Users\seths> & "C:/Program Files/ArcGIS/Pro/bin/Python/envs/arcgispro-py3/python.exe" c:/Users/seths/Documents/Dozier/Lab5/Lab5_Dozier.py
Enter a building number: 2
Enter a buffer distance: 3
```

Screenshot of Toolbox code:

## Garrett Dozier - GEOG 392 - Section: 501 - LAB 5

```
Lab4_Dozier.py Lab5_Dozier.py Lab5_2.pyt X
C:\Users> seth > Documents > Dozier > Lab5 > Lab5_2.pyt > Building_Intersection > execute
1
2 # to actually print the statements after code - arcpy.AddMessage (success message) then else: arcpy.AddError(error message) return
3
4
5
6 import arcpy
7
8 arcpy.env.overwriteOutput = True
9
10
11 class Toolbox(object):
12     def __init__(self):
13         """Define the toolbox (the name of the toolbox is the name of the
14         .pyt file)."""
15         self.label = "Toolbox"
16         self.alias = ""
17
18         # List of tool classes associated with this toolbox
19         # What I'm actually naming the tool
20         self.tools = [Building_Intersection]
21
22 # putting actual tool into play
23 class Building_Intersection(object):
24     def __init__(self):
25         """Define the tool (tool name is the name of the class)."""
26         self.label = "Building_Intersection"
27         self.description = ""
28         self.canRunInBackground = False
29
30
31 # added parameter format from website
32 # Adding buffer distance add my created variable
33
34 def getParameterInfo(self):
35     """Define parameter definitions"""
36     param0 = arcpy.Parameter(
37         displayname="Here is the Buffer Distance (m):",
38         #buffer distance variable goes here
39         name="buff_dist",
40         # type is double
41         datatype="Double",
42         parameterType="Required",
43         direction="Input")
44
45     param1 = arcpy.Parameter(
46         displayname="Here is the Building Number:",
47         #building number variable goes here
48         name="building_num",
49         # type is string
50         datatype="String",
51         parameterType="Required",
52         direction="Input")
53
54     # making list of parameters - Important!!!!!!
55     params = [param0,param1]
56     return params
57
58 def isLicensed(self):
59     """Set whether tool is licensed to execute."""
60     return True
61
62 def updateParameters(self, parameters):
63     """Modify the values and properties of parameters before internal
64     validation is performed. This method is called whenever a parameter
65     has been changed."""
66     return
67
68 def updateMessages(self, parameters):
69     """Modify the messages created by internal validation for each tool
70     parameter. This method is called after internal validation."""
71     return
72
73 def execute(self, parameters, messages):
74     """The source code of the tool."""
75     return
76
77 # Declaring a few variables to make it easier within the rest of the code
78 Lab4000 = r"C:\Users\seth\Documents\Dozier\Lab4\Lab4000.gdb"
79 Structures = Lab4000 + r"\Structures"
80
81 # creating inputs for the building number and buffer distance
82 building_num = int(input("Enter a building number: "))
83 buff_dist = int(input("Enter a buffer distance: "))
84
85 # where clause variable for the building number
86 where_clause = "Bldg = '%s'" % building_num
87
88 #creating a search cursor and actually checking to see if the building is there
89 scurs = arcpy.SearchCursor(Structures, where_clause=where_clause)
90 canProceed = False
91
92 for row in scurs:
93     if row.getValue("Bldg") == building_num:
94         canProceed = True
95
96 if canProceed == True:
97     arcpy.Select_analysis(
98         Structures,
99         Lab4000 + r"\Structures_building_%s" % (building_num)
100     )
101     arcpy.Buffer_analysis(
```

## Garrett Dozier - GEOG 392 - Section: 501 - LAB 5



```
File Edit Selection View Go Run Terminal Help
Lab5_2.pyt - Visual Studio Code

Explorer (Ctrl+Shift+E) Lab5_Dozier.py Lab5_2.pyt X
C:\Users\seths> Documents > Dozier > Lab5 > Lab5_2.pyt > Building_Intersection > execute
88 scurs = arcpy.SearchCursor(Structures, where_clause=where_clause)
89 canProceed = False
90
91 for row in scurs:
92     if row.getValue("Bldg") == building_num:
93         canProceed = True
94
95 if canProceed == True:
96     arcpy.Select_analysis(
97         Structures,
98         Lab4GDB + "\Structures_building_%s" % (building_num)
99     )
100
101     arcpy.Buffer_analysis(
102         Lab4GDB + "\Structures_building_%s" % (building_num),
103         Lab4GDB + "\Structures_building_%s" % (building_num, str(buff_dist)),
104         buff_dist
105     )
106
107     arcpy.Intersect_Analysis(
108         [
109             Lab4GDB + "\Structures_building_%s" % (building_num, str(buff_dist)),
110             Lab4GDB + "\Structures"
111         ],
112         Lab4GDB + "\Structures_building_%s_intersect" % (building_num, str(buff_dist)),
113         "All"
114     )
115
116     arcpy.AddError("Your search has been successful!")
117
118 else:
119     arcpy.AddError("Your search has returned an error!")
120
121 return
122
```

```
PS C:\Users\seths> & "C:/Program Files/ArcGIS/Pro/bin/Python/envs/arcgispro-py3/python.exe" c:/Users/seths/Documents/Dozier/Lab5/Lab5_2.pyt
PS C:\Users\seths> & "C:/Program Files/ArcGIS/Pro/bin/Python/envs/arcgispro-py3/python.exe" c:/Users/seths/Documents/Dozier/Lab5/Lab5_2.pyt
PS C:\Users\seths> & "C:/Program Files/ArcGIS/Pro/bin/Python/envs/arcgispro-py3/python.exe" c:/Users/seths/Documents/Dozier/Lab5/Lab5_2.pyt
PS C:\Users\seths> 
```