```python
1     #-------------------------------------------------------------------
2     # Author: Jessica Schuler
3     # Date 7-16-15
4     # Description: Assignment 4. Part 1: Using InvasivePlants data, generate
5     #              a text file report for 3 plant species including name and
6     #              number of records. Part 2: Create another report showing
7     #              the 3 plants only located in Pine County.
8     #-------------------------------------------------------------------
9
10    # Import arcpy
11    import arcpy
12
13    # Overwrite pre-existing files
14    # I added this code so I could ensure works each time run - if not error
15    # is produced because the file is already there so this overwrites the
16    # old file.
17    arcpy.env.overwriteOutput = True
18
19    #-------------CODE FOR PART 1 OF ASSIGNMENT-------------------------
20
21    # Create a variable to reference the shapefile records for plants
22    plants = "C:\\python\\A4_Data\\InvasivePlants.shp"
23
24    # Variable for each plant to search for and keep count
25    plant1 = "Knapweed, Spotted"
26    count1 = 0
27    plant2 = "Tansy"
28    count2 = 0
29    plant3 = "Thistle, Canada"
30    count3 = 0
31
32    # Create a search cursor
33    sCur = arcpy.da.SearchCursor(plants, ["common_nam"])
34
35    # The for loop searches each row for the 3 plants
36    # then if found adds to the count for that plant.
37    for row in sCur:
38        if row[0] == plant1:
39            count1 += 1
40        elif row[0] == plant2:
41            count2 += 1
42        elif row[0] == plant3:
43            count3 +=1
44
45    # Delete the search cursor
46    del sCur, row
47
48    # Output Report to to text file
49    f = open("C:\\python\\A4_Data\\A4_Output.txt", "w")
50
51    # This ouputs part 1 plant name and totals
52    f.write("State of Minnesota Invasive Plant Records\n")
53    f.write("Plant Name : # of Records\n")
54    f.write(plant1 + " : " + str(count1) + " Records\n")
55    f.write(plant2 + ": " + str(count2) + " Records\n")
56    f.write(plant3 + ": " + str(count3) + " Records\n")
57    f.write("------------------------------------------------\n")
58
59    #------------CODE FOR PART 2 OF ASSIGNMENT-------------------------
60
61    # Set up variable for county & clip
62    county = "C:\\python\\A4_Data\\PineCounty.shp"
63    Plant_Clip = "C:\\python\\A4_Data\\ArcGIS\\Default.gdb\\Plant_Clip"
64
65    # variables to hold county counts
```

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66    count4 = 0
67    count5 = 0
68    count6 = 0
69
70    # Clip the invasive plants by pine county
71    arcpy.Clip_analysis(plants, county, Plant_Clip, "")
72
73    # Create a search cursor
74    sCur = arcpy.da.SearchCursor(Plant_Clip, ["common_nam"])
75
76    # The for loop searches each row for the 3 plants
77    # then if found adds to the count for that plant.
78    for row in sCur:
79        if row[0] == plant1:
80            count4 += 1
81        elif row[0] == plant2:
82            count5 += 1
83        elif row[0] == plant3:
84            count6 +=1
85
86    # Delete the search cursor
87    del sCur, row
88
89    # This ouputs part 2 County totals of each plant name
90    f.write("Pine County, MN Invasive Plant Records\n")
91    f.write("Plant Name : # of Records\n")
92    f.write(plant1 + " : " + str(count4) + " Records\n")
93    f.write(plant2 + ": " + str(count5) + " Records\n")
94    f.write(plant3 + ": " + str(count6) + " Records\n")
95    f.write("---------------------------------------------\n")
96
97    # Close the output data file
98    f.close()
```