|  |  |  |
| --- | --- | --- |
| Input | processing | Output |
| To add more tree?(yes or no)  New tree  New percentage seedlings die  Amount of each tree desired | 1. Prompt to add more trees? 2. Read to add more trees? 3. Validate add more trees? 4. Prompt new trees 5. Read new trees 6. Validate new trees 7. Prompt percentage seedlings die 8. Read percentage seedlings die 9. Validate percentage seedlings die 10. Prompt amount of trees desired 11. Read amount of trees desired 12. Validate amount of trees desired 13. Calculate amount of seedlings needed for each type of tree 14. Print type of tree 15. Print desired number of sellable trees 16. Print minimum number of seedlings 17. Total number of desired trees, 18. Total number of seedlings need to plant | Type of tree  Desired number of sellable trees  Minimum number of seedlings  Total number of desired trees  Total number of seedlings need to plan |

1. Create string arrayList treeType with Fir, Pine, and spruce
2. create integer arrayList percentageDie with 7%, 12%, and 8%
3. create integer arrayList totalNumOfTree empty
4. create integer arrayList totalNumOfSeedlings empty
5. set Boolean addMore = getAddMore()
6. DoWhile addMore is True
7. -Add to end of treeType = getTreeType()
8. -Add to end of percentageDie = getPerDie()
9. -Prompt addMore = getAddMore()
10. Do( index = 0; index < size of treeType; index add 1)
11. -Add to array list totalNumOfTree at index= getTotalNumOfTree(treeType at index)
12. Do( index = 0; index < size of treeType; index add 1)
13. -Add to arraylist totalNumOfSeedlings at index = getTotalNumOfSeedlings(totalNumOfTree, percentageDie)
14. Set string finished equal empty string
15. Set int treeCount equal to zero
16. Set int seedCount equal to zero
17. Do (index = 0; index < size of treeType; index add 1)
18. -Add to string finished treeType at index, totalNumOfTree at index, totalNumOfSeedlings at index
19. -Add totalNumOfTree to TreeCount
20. -Add totalNumOfSeedlings to seedCount
21. Add TreeCount to string finished
22. Add seedCount to string finished
23. Public string getAddMore()
24. Set Boolean isFinished to false
25. Prompt user if he/she would like to add more tree types?
26. Read user input to add more tree type?
27. Do while isFinished is false
28. If user input to add more is Yes
29. -Then Return True
30. Else If user input to add more is no
31. -Then Return False
32. else
33. -output error message
34. Public string getTreeType()
35. Prompt user for tree type
36. Read user input
37. Check if user input is empty string
38. If user input isn’t empty string
39. Then return user input
40. Else
41. Then output error message
42. Repromt for tree type
43. Public int getPerDie()
44. Prompt user for integer
45. Read user input
46. if user input Isn’t an integer
47. then output error message, not integer
48. then reprompt for integer
49. elseif user input is greater than 100 or less than zero
50. then output error message, integer out of bound
51. else
52. then return user input
53. Public int getTotalNumOfTree(treeType)
54. Set Boolean isFinished equal to false
55. Do while isFinished is equal to false
56. Prompt user for TotalNumOfTree for treeType
57. Read TotalNumOfTree
58. Try numOfTree = see if input is an integer
59. If input is less than 0
60. Then print error message
61. Else
62. Return numOfTree
63. Catch
64. Show error message
65. Public int getTotalNumOfSeedlings(treeTotal, percent)
66. Set int seedTotal = treeTotal
67. Do(set int index = 0; index less than 7; index add 1)
68. seedTotal = seedTotal multiply by 100 over(100 – percent)
69. set newSeedTotal = turn seedTotal into an integer
70. if newSeedTotal does not seedTotal
71. then seedTotal is newSeedTotal plus 1
72. else
73. then seetTotal is newSeedTotal
74. return seedTotal

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Data 1 | Data 2 | Data3 | Data 4 |
| Get more | Yes, no | No | Maybe null | Yes |
| Gettreetype | Berk | Null | Null | “ “,bark |
| Getperdie | 5 | Null | Null | “ “,17 |
| Gettotalnumoftree | 100,100,100,100 | 150,150,100,150 | 200,150,125 |  |
| Gettotalnumofseedlings |  |  |  |  |
|  |  |  |  |  |
|  |  |  |  |  |