

```
1 package edu.odu.cs.cs330.items.creation;
2
3 import java.util.Map;
4
5
6 /**
7  * This class handles all Item creation and lookup logic.
8  */
9 @SuppressWarnings({
10     "PMD.ClassNamingConventions",
11     "PMD.DoubleBraceInitialization",
12     "PMD.OnlyOneReturn",
13     "PMD.LawOfDemeter"
14 })
15 public final class ItemFactory {
16     /**
17      * ItemFactory is a collection of static functions. There is no reason to
18      * instantiate an ItemFactory object.
19      */
20     private ItemFactory()
21     {
22         // do not allow ItemFactory to be instantiated.
23     }
24
25     /**
26      * This Lookup table contains a listing of all known keywords and the Item
27      * sub-classes to which the correspond.
28      */
29     private static final Map<String, ItemCreationStrategy> KNOWN_ITEMS = new HashMap<>() {{
30         put("Armour", ArmourCreation.construct());
31         put("Armor", ArmourCreation.construct());
32         put("Tool", ToolCreation.construct());
33         put("Food", ConsumableCreation.construct());
34         put("Potion", ConsumableCreation.construct());
35         put("Disposable", ConsumableCreation.construct());
36     }};
37
38     /**
39      * Get an item creation strategy
40      *
41      * @param type the item to be created
42      *
43      * @return A creation strategy for an item of the specified type, or null
44      *         if the type is unknown
45      */
46     public static ItemCreationStrategy create final String type)
47     {
48         if (isNotKnown type) {
49             return null;
50         }
51
52         return KNOWN_ITEMS.get type);
53     }
54
55     /**
56      * Determine whether a given item is known.
57      *
58      * @param type the item for which to query
```

```
59     *
60     * @return true if the type can be created and false otherwise
61     */
62     public static boolean isKnown final String type)
63     {
64         return KNOWN_ITEMS.containsKey(type);
65     }
66
67     /**
68     * Determine whether a given item is not known.
69     *
70     * @param type the item for which to query
71     *
72     * @return true if the type can be created and false otherwise
73     */
74     public static boolean isNotKnown final String type)
75     {
76         return !KNOWN_ITEMS.containsKey(type);
77     }
78
79     /**
80     * Determine how many "tokens" are required to create a given item.
81     *
82     * @param type the item for which to query
83     *
84     * @return number of required tokens if the type is known and -1 otherwise
85     */
86     public static int getNumberOfRequiredValues final String type)
87     {
88         if (isNotKnown type) {
89             return -1;
90         }
91
92         return KNOWN_ITEMS.get type .requiredNumberOfValues();
93     }
94 }
95
96
97
98
```