```
 1 @startuml
 2 'https://plantuml.com/class-diagram
 3
 4 class CharacterProperties {
 5     -String font
 6     -String color
 7     -int size
 8
 9     +CharacterProperties(String font, String color, int size)
10     +String getFont()
11     +String getColor()
12     +int getSize()
13 }
14
15 class Character {
16     -char character
17     -CharacterProperties characterProperty
18
19     +setCharacter(char character)
20     +void setCharacterProperty(CharacterProperties characterProperty)
21     +char getCharacter()
22     +String getFont()
23     +String getColor()
24     +int getSize()
25 }
26
27 Character o-- CharacterProperties : aggregation
28
29 class CharacterPropertiesFactory {
30     -Map<String, CharacterProperties> flyweights
31     +CharacterProperties setAndRetrieveFlyweightCharacterProperties(String font, String
   color, int size)
32     +int sizeOfMap()
33 }
34
35 CharacterPropertiesFactory o-- CharacterProperties : aggregation
36
37 class Document {
38     -List<Character> characters;
39     -CharacterPropertiesFactory propertiesFactory
40
41     +void addCharacter(char c, String font, String color, int size)
42     +void editCharacterProperties(int index, String font, String color, int size)
43     +void saveToFile(String filename)
44     +void loadFromFile(String filename)
45 }
46
47 Document "1" *-- "many" Character : contains
48 Document "1" *-- "many" CharacterProperties : contains
49 class Driver {}
50 @enduml
```

```
 1 @startuml
 2 'https://plantuml.com/object-diagram
 3
 4 object "<u>:CharacterProperties</u>" as ab16 {
 5     font = "Arial"
 6     color = "Black"
 7     size = 16
 8 }
 9
10 object "<u>:CharacterProperties</u>" as ab14 {
11     font = "Arial"
12     color = "Black"
13     size = 14
14 }
15
16 object "<u>:CharacterProperties</u>" as vb18 {
17     font = "Verdana"
18     color = "Blue"
19     size = 18
20 }
21
22 object "<u>:CharacterProperties</u>" as vb12 {
23     font = "Verdana"
24     color = "Red"
25     size = 12
26 }
27
28 object "<u>:CharacterProperties</u>" as cb99 {
29     font = "Calibri"
30     color = "Blue"
31     size = 99
32 }
33
34 object "<u>:Character</u>" as H1 {
35     character = 'H'
36 }
37 H1 o-- cb99
38
39 object "<u>:Character</u>" as e1 {
40     character = 'e'
41 }
42 e1 o-- ab14
43 object "<u>:Character</u>" as l1 {
44     character = 'l'
45 }
46 l1 o-- ab14
47 object "<u>:Character</u>" as l2 {
48     character = 'l'
49 }
50 l2 o-- ab14
51 object "<u>:Character</u>" as o1 {
52     character = 'o'
53 }
```

```
54 o1 o-- ab14
55 object "<u>:Character</u>" as W1 {
56     character = 'W'
57 }
58 W1 o-- cb99
59 object "<u>:Character</u>" as o2 {
60     character = 'o'
61 }
62 o2 o-- ab14
63 object "<u>:Character</u>" as r1 {
64     character = 'r'
65 }
66 r1 o-- ab14
67 object "<u>:Character</u>" as l3 {
68     character = 'l'
69 }
70 l3 o-- ab14
71 object "<u>:Character</u>" as d1 {
72     character = 'd'
73 }
74 d1 o-- ab14
75 object "<u>:Character</u>" as C1 {
76     character = 'C'
77 }
78 C1 o-- vb18
79 object "<u>:Character</u>" as S1 {
80     character = 'S'
81 }
82 S1 o-- vb18
83 object "<u>:Character</u>" as 5 {
84     character = '5'
85 }
86 5 o-- vb12
87 object "<u>:Character</u>" as 8 {
88     character = '8'
89 }
90 8 o-- vb12
91
92 object "<u>:Character</u>" as 01 {
93     character = 0
94 }
95 01 o-- vb12
96 object "<u>:Character</u>" as 02 {
97     character = 0
98 }
99 02 o-- vb12
100
101 object "<u>:CharacterPropertiesFactory</u>" as fac {
102
103 }
104 fac o-- ab16
105 fac o-- ab14
106 fac o-- vb18
```

```
107 fac o-- vb12
108 fac o-- cb99
109
110
111 object "<u>:Document</u>" as doc {
112     characters = "HelloWorldCS5800"
113 }
114 doc *-- fac
115 doc *-- H1
116 doc *-- e1
117 doc *-- l1
118 doc *-- l2
119 doc *-- o1
120 doc *-- W1
121 doc *-- o2
122 doc *-- r1
123 doc *-- l3
124 doc *-- d1
125 doc *-- C1
126 doc *-- S1
127 doc *-- 5
128 doc *-- 8
129 doc *-- 01
130 doc *-- 02
131 @enduml
132
```