

Plant Seedlings Image Classification using CNNs

Problem Statement:

Can you differentiate a weed from a crop seedling? The ability to do so effectively can mean better crop yields and better stewardship of the environment. The Aarhus University Signal Processing group, in collaboration with University of Southern Denmark, has recently released a dataset containing images of unique plants belonging to 12 species at several growth stages.

Objective:

The goal of the project is to create a classifier capable of determining a plant's species from a photo.

Data Description:

Each image has a filename that is its unique id. The dataset comprises of 12 plant species.

Libraries:

```
In [1]: %load_ext nb_black
# Library to suppress warnings or deprecation notes
import warnings

warnings.filterwarnings("ignore")

import matplotlib.pyplot as plt

%matplotlib inline

from sklearn import svm
from sklearn.model_selection import train_test_split

import numpy as np
import pandas as pd
import os # library for creating data paths
import cv2
import seaborn as sns # for data visualization
import tensorflow as tf
import keras
from tensorflow.keras.models import Sequential # sequential api for sequential
from tensorflow.keras.layers import (
    Dense,
    Dropout,
    Flatten,
```

```

) # importing different layers
from tensorflow.keras.layers import (
    Conv2D,
    MaxPooling2D,
    BatchNormalization,
    Activation,
    Input,
    LeakyReLU,
    Activation,
)
from tensorflow.keras import backend as K
from tensorflow.keras.utils import to_categorical # to perform one-hot encoding
from keras.layers import Dense, Dropout, Flatten, Conv2D, MaxPool2D

# optimiers for optimizing the model
from tensorflow.keras import optimizers
from tensorflow.keras.optimizers import Adam
from tensorflow.keras.optimizers import RMSprop
from tensorflow.keras.optimizers import Nadam # optimiers for optimizing the mo
from keras.callbacks import (
    EarlyStopping,
) # regularization method to prevent the overfitting
from keras.callbacks import ModelCheckpoint
from tensorflow.keras.models import Sequential, Model
from tensorflow.keras import losses, optimizers

```

Read Dataset

```
In [2]: file_path = "C:/Users/Andrew Hoher/Downloads/images.npy"
```

```
In [3]: Images = np.load(file_path)
Labels = pd.read_csv("Labels.csv")
```

Summary

```
In [4]: print(Images.shape)
print(Labels.shape)
```

```
(4750, 128, 128, 3)
(4750, 1)
```

```
In [5]: pd.set_option("display.max_rows", None, "display.max_columns", None)
print(Labels)
```

```

          Label
0  Small-flowered Cranesbill
1  Small-flowered Cranesbill
2  Small-flowered Cranesbill
3  Small-flowered Cranesbill
4  Small-flowered Cranesbill
5  Small-flowered Cranesbill
6  Small-flowered Cranesbill
7  Small-flowered Cranesbill

```

8	Small-flowered Cranesbill
9	Small-flowered Cranesbill
10	Small-flowered Cranesbill
11	Small-flowered Cranesbill
12	Small-flowered Cranesbill
13	Small-flowered Cranesbill
14	Small-flowered Cranesbill
15	Small-flowered Cranesbill
16	Small-flowered Cranesbill
17	Small-flowered Cranesbill
18	Small-flowered Cranesbill
19	Small-flowered Cranesbill
20	Small-flowered Cranesbill
21	Small-flowered Cranesbill
22	Small-flowered Cranesbill
23	Small-flowered Cranesbill
24	Small-flowered Cranesbill
25	Small-flowered Cranesbill
26	Small-flowered Cranesbill
27	Small-flowered Cranesbill
28	Small-flowered Cranesbill
29	Small-flowered Cranesbill
30	Small-flowered Cranesbill
31	Small-flowered Cranesbill
32	Small-flowered Cranesbill
33	Small-flowered Cranesbill
34	Small-flowered Cranesbill
35	Small-flowered Cranesbill
36	Small-flowered Cranesbill
37	Small-flowered Cranesbill
38	Small-flowered Cranesbill
39	Small-flowered Cranesbill
40	Small-flowered Cranesbill
41	Small-flowered Cranesbill
42	Small-flowered Cranesbill
43	Small-flowered Cranesbill
44	Small-flowered Cranesbill
45	Small-flowered Cranesbill
46	Small-flowered Cranesbill
47	Small-flowered Cranesbill
48	Small-flowered Cranesbill
49	Small-flowered Cranesbill
50	Small-flowered Cranesbill
51	Small-flowered Cranesbill
52	Small-flowered Cranesbill
53	Small-flowered Cranesbill
54	Small-flowered Cranesbill
55	Small-flowered Cranesbill
56	Small-flowered Cranesbill
57	Small-flowered Cranesbill
58	Small-flowered Cranesbill
59	Small-flowered Cranesbill
60	Small-flowered Cranesbill
61	Small-flowered Cranesbill
62	Small-flowered Cranesbill
63	Small-flowered Cranesbill
64	Small-flowered Cranesbill
65	Small-flowered Cranesbill
66	Small-flowered Cranesbill
67	Small-flowered Cranesbill
68	Small-flowered Cranesbill
69	Small-flowered Cranesbill
70	Small-flowered Cranesbill
71	Small-flowered Cranesbill
72	Small-flowered Cranesbill

73	Small-flowered	Cranesbill
74	Small-flowered	Cranesbill
75	Small-flowered	Cranesbill
76	Small-flowered	Cranesbill
77	Small-flowered	Cranesbill
78	Small-flowered	Cranesbill
79	Small-flowered	Cranesbill
80	Small-flowered	Cranesbill
81	Small-flowered	Cranesbill
82	Small-flowered	Cranesbill
83	Small-flowered	Cranesbill
84	Small-flowered	Cranesbill
85	Small-flowered	Cranesbill
86	Small-flowered	Cranesbill
87	Small-flowered	Cranesbill
88	Small-flowered	Cranesbill
89	Small-flowered	Cranesbill
90	Small-flowered	Cranesbill
91	Small-flowered	Cranesbill
92	Small-flowered	Cranesbill
93	Small-flowered	Cranesbill
94	Small-flowered	Cranesbill
95	Small-flowered	Cranesbill
96	Small-flowered	Cranesbill
97	Small-flowered	Cranesbill
98	Small-flowered	Cranesbill
99	Small-flowered	Cranesbill
100	Small-flowered	Cranesbill
101	Small-flowered	Cranesbill
102	Small-flowered	Cranesbill
103	Small-flowered	Cranesbill
104	Small-flowered	Cranesbill
105	Small-flowered	Cranesbill
106	Small-flowered	Cranesbill
107	Small-flowered	Cranesbill
108	Small-flowered	Cranesbill
109	Small-flowered	Cranesbill
110	Small-flowered	Cranesbill
111	Small-flowered	Cranesbill
112	Small-flowered	Cranesbill
113	Small-flowered	Cranesbill
114	Small-flowered	Cranesbill
115	Small-flowered	Cranesbill
116	Small-flowered	Cranesbill
117	Small-flowered	Cranesbill
118	Small-flowered	Cranesbill
119	Small-flowered	Cranesbill
120	Small-flowered	Cranesbill
121	Small-flowered	Cranesbill
122	Small-flowered	Cranesbill
123	Small-flowered	Cranesbill
124	Small-flowered	Cranesbill
125	Small-flowered	Cranesbill
126	Small-flowered	Cranesbill
127	Small-flowered	Cranesbill
128	Small-flowered	Cranesbill
129	Small-flowered	Cranesbill
130	Small-flowered	Cranesbill
131	Small-flowered	Cranesbill
132	Small-flowered	Cranesbill
133	Small-flowered	Cranesbill
134	Small-flowered	Cranesbill
135	Small-flowered	Cranesbill
136	Small-flowered	Cranesbill
137	Small-flowered	Cranesbill

138	Small-flowered	Cranesbill
139	Small-flowered	Cranesbill
140	Small-flowered	Cranesbill
141	Small-flowered	Cranesbill
142	Small-flowered	Cranesbill
143	Small-flowered	Cranesbill
144	Small-flowered	Cranesbill
145	Small-flowered	Cranesbill
146	Small-flowered	Cranesbill
147	Small-flowered	Cranesbill
148	Small-flowered	Cranesbill
149	Small-flowered	Cranesbill
150	Small-flowered	Cranesbill
151	Small-flowered	Cranesbill
152	Small-flowered	Cranesbill
153	Small-flowered	Cranesbill
154	Small-flowered	Cranesbill
155	Small-flowered	Cranesbill
156	Small-flowered	Cranesbill
157	Small-flowered	Cranesbill
158	Small-flowered	Cranesbill
159	Small-flowered	Cranesbill
160	Small-flowered	Cranesbill
161	Small-flowered	Cranesbill
162	Small-flowered	Cranesbill
163	Small-flowered	Cranesbill
164	Small-flowered	Cranesbill
165	Small-flowered	Cranesbill
166	Small-flowered	Cranesbill
167	Small-flowered	Cranesbill
168	Small-flowered	Cranesbill
169	Small-flowered	Cranesbill
170	Small-flowered	Cranesbill
171	Small-flowered	Cranesbill
172	Small-flowered	Cranesbill
173	Small-flowered	Cranesbill
174	Small-flowered	Cranesbill
175	Small-flowered	Cranesbill
176	Small-flowered	Cranesbill
177	Small-flowered	Cranesbill
178	Small-flowered	Cranesbill
179	Small-flowered	Cranesbill
180	Small-flowered	Cranesbill
181	Small-flowered	Cranesbill
182	Small-flowered	Cranesbill
183	Small-flowered	Cranesbill
184	Small-flowered	Cranesbill
185	Small-flowered	Cranesbill
186	Small-flowered	Cranesbill
187	Small-flowered	Cranesbill
188	Small-flowered	Cranesbill
189	Small-flowered	Cranesbill
190	Small-flowered	Cranesbill
191	Small-flowered	Cranesbill
192	Small-flowered	Cranesbill
193	Small-flowered	Cranesbill
194	Small-flowered	Cranesbill
195	Small-flowered	Cranesbill
196	Small-flowered	Cranesbill
197	Small-flowered	Cranesbill
198	Small-flowered	Cranesbill
199	Small-flowered	Cranesbill
200	Small-flowered	Cranesbill
201	Small-flowered	Cranesbill
202	Small-flowered	Cranesbill

203	Small-flowered	Cranesbill
204	Small-flowered	Cranesbill
205	Small-flowered	Cranesbill
206	Small-flowered	Cranesbill
207	Small-flowered	Cranesbill
208	Small-flowered	Cranesbill
209	Small-flowered	Cranesbill
210	Small-flowered	Cranesbill
211	Small-flowered	Cranesbill
212	Small-flowered	Cranesbill
213	Small-flowered	Cranesbill
214	Small-flowered	Cranesbill
215	Small-flowered	Cranesbill
216	Small-flowered	Cranesbill
217	Small-flowered	Cranesbill
218	Small-flowered	Cranesbill
219	Small-flowered	Cranesbill
220	Small-flowered	Cranesbill
221	Small-flowered	Cranesbill
222	Small-flowered	Cranesbill
223	Small-flowered	Cranesbill
224	Small-flowered	Cranesbill
225	Small-flowered	Cranesbill
226	Small-flowered	Cranesbill
227	Small-flowered	Cranesbill
228	Small-flowered	Cranesbill
229	Small-flowered	Cranesbill
230	Small-flowered	Cranesbill
231	Small-flowered	Cranesbill
232	Small-flowered	Cranesbill
233	Small-flowered	Cranesbill
234	Small-flowered	Cranesbill
235	Small-flowered	Cranesbill
236	Small-flowered	Cranesbill
237	Small-flowered	Cranesbill
238	Small-flowered	Cranesbill
239	Small-flowered	Cranesbill
240	Small-flowered	Cranesbill
241	Small-flowered	Cranesbill
242	Small-flowered	Cranesbill
243	Small-flowered	Cranesbill
244	Small-flowered	Cranesbill
245	Small-flowered	Cranesbill
246	Small-flowered	Cranesbill
247	Small-flowered	Cranesbill
248	Small-flowered	Cranesbill
249	Small-flowered	Cranesbill
250	Small-flowered	Cranesbill
251	Small-flowered	Cranesbill
252	Small-flowered	Cranesbill
253	Small-flowered	Cranesbill
254	Small-flowered	Cranesbill
255	Small-flowered	Cranesbill
256	Small-flowered	Cranesbill
257	Small-flowered	Cranesbill
258	Small-flowered	Cranesbill
259	Small-flowered	Cranesbill
260	Small-flowered	Cranesbill
261	Small-flowered	Cranesbill
262	Small-flowered	Cranesbill
263	Small-flowered	Cranesbill
264	Small-flowered	Cranesbill
265	Small-flowered	Cranesbill
266	Small-flowered	Cranesbill
267	Small-flowered	Cranesbill

268	Small-flowered	Cranesbill
269	Small-flowered	Cranesbill
270	Small-flowered	Cranesbill
271	Small-flowered	Cranesbill
272	Small-flowered	Cranesbill
273	Small-flowered	Cranesbill
274	Small-flowered	Cranesbill
275	Small-flowered	Cranesbill
276	Small-flowered	Cranesbill
277	Small-flowered	Cranesbill
278	Small-flowered	Cranesbill
279	Small-flowered	Cranesbill
280	Small-flowered	Cranesbill
281	Small-flowered	Cranesbill
282	Small-flowered	Cranesbill
283	Small-flowered	Cranesbill
284	Small-flowered	Cranesbill
285	Small-flowered	Cranesbill
286	Small-flowered	Cranesbill
287	Small-flowered	Cranesbill
288	Small-flowered	Cranesbill
289	Small-flowered	Cranesbill
290	Small-flowered	Cranesbill
291	Small-flowered	Cranesbill
292	Small-flowered	Cranesbill
293	Small-flowered	Cranesbill
294	Small-flowered	Cranesbill
295	Small-flowered	Cranesbill
296	Small-flowered	Cranesbill
297	Small-flowered	Cranesbill
298	Small-flowered	Cranesbill
299	Small-flowered	Cranesbill
300	Small-flowered	Cranesbill
301	Small-flowered	Cranesbill
302	Small-flowered	Cranesbill
303	Small-flowered	Cranesbill
304	Small-flowered	Cranesbill
305	Small-flowered	Cranesbill
306	Small-flowered	Cranesbill
307	Small-flowered	Cranesbill
308	Small-flowered	Cranesbill
309	Small-flowered	Cranesbill
310	Small-flowered	Cranesbill
311	Small-flowered	Cranesbill
312	Small-flowered	Cranesbill
313	Small-flowered	Cranesbill
314	Small-flowered	Cranesbill
315	Small-flowered	Cranesbill
316	Small-flowered	Cranesbill
317	Small-flowered	Cranesbill
318	Small-flowered	Cranesbill
319	Small-flowered	Cranesbill
320	Small-flowered	Cranesbill
321	Small-flowered	Cranesbill
322	Small-flowered	Cranesbill
323	Small-flowered	Cranesbill
324	Small-flowered	Cranesbill
325	Small-flowered	Cranesbill
326	Small-flowered	Cranesbill
327	Small-flowered	Cranesbill
328	Small-flowered	Cranesbill
329	Small-flowered	Cranesbill
330	Small-flowered	Cranesbill
331	Small-flowered	Cranesbill
332	Small-flowered	Cranesbill

333	Small-flowered	Cranesbill
334	Small-flowered	Cranesbill
335	Small-flowered	Cranesbill
336	Small-flowered	Cranesbill
337	Small-flowered	Cranesbill
338	Small-flowered	Cranesbill
339	Small-flowered	Cranesbill
340	Small-flowered	Cranesbill
341	Small-flowered	Cranesbill
342	Small-flowered	Cranesbill
343	Small-flowered	Cranesbill
344	Small-flowered	Cranesbill
345	Small-flowered	Cranesbill
346	Small-flowered	Cranesbill
347	Small-flowered	Cranesbill
348	Small-flowered	Cranesbill
349	Small-flowered	Cranesbill
350	Small-flowered	Cranesbill
351	Small-flowered	Cranesbill
352	Small-flowered	Cranesbill
353	Small-flowered	Cranesbill
354	Small-flowered	Cranesbill
355	Small-flowered	Cranesbill
356	Small-flowered	Cranesbill
357	Small-flowered	Cranesbill
358	Small-flowered	Cranesbill
359	Small-flowered	Cranesbill
360	Small-flowered	Cranesbill
361	Small-flowered	Cranesbill
362	Small-flowered	Cranesbill
363	Small-flowered	Cranesbill
364	Small-flowered	Cranesbill
365	Small-flowered	Cranesbill
366	Small-flowered	Cranesbill
367	Small-flowered	Cranesbill
368	Small-flowered	Cranesbill
369	Small-flowered	Cranesbill
370	Small-flowered	Cranesbill
371	Small-flowered	Cranesbill
372	Small-flowered	Cranesbill
373	Small-flowered	Cranesbill
374	Small-flowered	Cranesbill
375	Small-flowered	Cranesbill
376	Small-flowered	Cranesbill
377	Small-flowered	Cranesbill
378	Small-flowered	Cranesbill
379	Small-flowered	Cranesbill
380	Small-flowered	Cranesbill
381	Small-flowered	Cranesbill
382	Small-flowered	Cranesbill
383	Small-flowered	Cranesbill
384	Small-flowered	Cranesbill
385	Small-flowered	Cranesbill
386	Small-flowered	Cranesbill
387	Small-flowered	Cranesbill
388	Small-flowered	Cranesbill
389	Small-flowered	Cranesbill
390	Small-flowered	Cranesbill
391	Small-flowered	Cranesbill
392	Small-flowered	Cranesbill
393	Small-flowered	Cranesbill
394	Small-flowered	Cranesbill
395	Small-flowered	Cranesbill
396	Small-flowered	Cranesbill
397	Small-flowered	Cranesbill

398	Small-flowered	Cranesbill
399	Small-flowered	Cranesbill
400	Small-flowered	Cranesbill
401	Small-flowered	Cranesbill
402	Small-flowered	Cranesbill
403	Small-flowered	Cranesbill
404	Small-flowered	Cranesbill
405	Small-flowered	Cranesbill
406	Small-flowered	Cranesbill
407	Small-flowered	Cranesbill
408	Small-flowered	Cranesbill
409	Small-flowered	Cranesbill
410	Small-flowered	Cranesbill
411	Small-flowered	Cranesbill
412	Small-flowered	Cranesbill
413	Small-flowered	Cranesbill
414	Small-flowered	Cranesbill
415	Small-flowered	Cranesbill
416	Small-flowered	Cranesbill
417	Small-flowered	Cranesbill
418	Small-flowered	Cranesbill
419	Small-flowered	Cranesbill
420	Small-flowered	Cranesbill
421	Small-flowered	Cranesbill
422	Small-flowered	Cranesbill
423	Small-flowered	Cranesbill
424	Small-flowered	Cranesbill
425	Small-flowered	Cranesbill
426	Small-flowered	Cranesbill
427	Small-flowered	Cranesbill
428	Small-flowered	Cranesbill
429	Small-flowered	Cranesbill
430	Small-flowered	Cranesbill
431	Small-flowered	Cranesbill
432	Small-flowered	Cranesbill
433	Small-flowered	Cranesbill
434	Small-flowered	Cranesbill
435	Small-flowered	Cranesbill
436	Small-flowered	Cranesbill
437	Small-flowered	Cranesbill
438	Small-flowered	Cranesbill
439	Small-flowered	Cranesbill
440	Small-flowered	Cranesbill
441	Small-flowered	Cranesbill
442	Small-flowered	Cranesbill
443	Small-flowered	Cranesbill
444	Small-flowered	Cranesbill
445	Small-flowered	Cranesbill
446	Small-flowered	Cranesbill
447	Small-flowered	Cranesbill
448	Small-flowered	Cranesbill
449	Small-flowered	Cranesbill
450	Small-flowered	Cranesbill
451	Small-flowered	Cranesbill
452	Small-flowered	Cranesbill
453	Small-flowered	Cranesbill
454	Small-flowered	Cranesbill
455	Small-flowered	Cranesbill
456	Small-flowered	Cranesbill
457	Small-flowered	Cranesbill
458	Small-flowered	Cranesbill
459	Small-flowered	Cranesbill
460	Small-flowered	Cranesbill
461	Small-flowered	Cranesbill
462	Small-flowered	Cranesbill

463	Small-flowered Cranesbill
464	Small-flowered Cranesbill
465	Small-flowered Cranesbill
466	Small-flowered Cranesbill
467	Small-flowered Cranesbill
468	Small-flowered Cranesbill
469	Small-flowered Cranesbill
470	Small-flowered Cranesbill
471	Small-flowered Cranesbill
472	Small-flowered Cranesbill
473	Small-flowered Cranesbill
474	Small-flowered Cranesbill
475	Small-flowered Cranesbill
476	Small-flowered Cranesbill
477	Small-flowered Cranesbill
478	Small-flowered Cranesbill
479	Small-flowered Cranesbill
480	Small-flowered Cranesbill
481	Small-flowered Cranesbill
482	Small-flowered Cranesbill
483	Small-flowered Cranesbill
484	Small-flowered Cranesbill
485	Small-flowered Cranesbill
486	Small-flowered Cranesbill
487	Small-flowered Cranesbill
488	Small-flowered Cranesbill
489	Small-flowered Cranesbill
490	Small-flowered Cranesbill
491	Small-flowered Cranesbill
492	Small-flowered Cranesbill
493	Small-flowered Cranesbill
494	Small-flowered Cranesbill
495	Small-flowered Cranesbill
496	Fat Hen
497	Fat Hen
498	Fat Hen
499	Fat Hen
500	Fat Hen
501	Fat Hen
502	Fat Hen
503	Fat Hen
504	Fat Hen
505	Fat Hen
506	Fat Hen
507	Fat Hen
508	Fat Hen
509	Fat Hen
510	Fat Hen
511	Fat Hen
512	Fat Hen
513	Fat Hen
514	Fat Hen
515	Fat Hen
516	Fat Hen
517	Fat Hen
518	Fat Hen
519	Fat Hen
520	Fat Hen
521	Fat Hen
522	Fat Hen
523	Fat Hen
524	Fat Hen
525	Fat Hen
526	Fat Hen
527	Fat Hen

528	Fat Hen
529	Fat Hen
530	Fat Hen
531	Fat Hen
532	Fat Hen
533	Fat Hen
534	Fat Hen
535	Fat Hen
536	Fat Hen
537	Fat Hen
538	Fat Hen
539	Fat Hen
540	Fat Hen
541	Fat Hen
542	Fat Hen
543	Fat Hen
544	Fat Hen
545	Fat Hen
546	Fat Hen
547	Fat Hen
548	Fat Hen
549	Fat Hen
550	Fat Hen
551	Fat Hen
552	Fat Hen
553	Fat Hen
554	Fat Hen
555	Fat Hen
556	Fat Hen
557	Fat Hen
558	Fat Hen
559	Fat Hen
560	Fat Hen
561	Fat Hen
562	Fat Hen
563	Fat Hen
564	Fat Hen
565	Fat Hen
566	Fat Hen
567	Fat Hen
568	Fat Hen
569	Fat Hen
570	Fat Hen
571	Fat Hen
572	Fat Hen
573	Fat Hen
574	Fat Hen
575	Fat Hen
576	Fat Hen
577	Fat Hen
578	Fat Hen
579	Fat Hen
580	Fat Hen
581	Fat Hen
582	Fat Hen
583	Fat Hen
584	Fat Hen
585	Fat Hen
586	Fat Hen
587	Fat Hen
588	Fat Hen
589	Fat Hen
590	Fat Hen
591	Fat Hen
592	Fat Hen

593	Fat Hen
594	Fat Hen
595	Fat Hen
596	Fat Hen
597	Fat Hen
598	Fat Hen
599	Fat Hen
600	Fat Hen
601	Fat Hen
602	Fat Hen
603	Fat Hen
604	Fat Hen
605	Fat Hen
606	Fat Hen
607	Fat Hen
608	Fat Hen
609	Fat Hen
610	Fat Hen
611	Fat Hen
612	Fat Hen
613	Fat Hen
614	Fat Hen
615	Fat Hen
616	Fat Hen
617	Fat Hen
618	Fat Hen
619	Fat Hen
620	Fat Hen
621	Fat Hen
622	Fat Hen
623	Fat Hen
624	Fat Hen
625	Fat Hen
626	Fat Hen
627	Fat Hen
628	Fat Hen
629	Fat Hen
630	Fat Hen
631	Fat Hen
632	Fat Hen
633	Fat Hen
634	Fat Hen
635	Fat Hen
636	Fat Hen
637	Fat Hen
638	Fat Hen
639	Fat Hen
640	Fat Hen
641	Fat Hen
642	Fat Hen
643	Fat Hen
644	Fat Hen
645	Fat Hen
646	Fat Hen
647	Fat Hen
648	Fat Hen
649	Fat Hen
650	Fat Hen
651	Fat Hen
652	Fat Hen
653	Fat Hen
654	Fat Hen
655	Fat Hen
656	Fat Hen
657	Fat Hen

658	Fat Hen
659	Fat Hen
660	Fat Hen
661	Fat Hen
662	Fat Hen
663	Fat Hen
664	Fat Hen
665	Fat Hen
666	Fat Hen
667	Fat Hen
668	Fat Hen
669	Fat Hen
670	Fat Hen
671	Fat Hen
672	Fat Hen
673	Fat Hen
674	Fat Hen
675	Fat Hen
676	Fat Hen
677	Fat Hen
678	Fat Hen
679	Fat Hen
680	Fat Hen
681	Fat Hen
682	Fat Hen
683	Fat Hen
684	Fat Hen
685	Fat Hen
686	Fat Hen
687	Fat Hen
688	Fat Hen
689	Fat Hen
690	Fat Hen
691	Fat Hen
692	Fat Hen
693	Fat Hen
694	Fat Hen
695	Fat Hen
696	Fat Hen
697	Fat Hen
698	Fat Hen
699	Fat Hen
700	Fat Hen
701	Fat Hen
702	Fat Hen
703	Fat Hen
704	Fat Hen
705	Fat Hen
706	Fat Hen
707	Fat Hen
708	Fat Hen
709	Fat Hen
710	Fat Hen
711	Fat Hen
712	Fat Hen
713	Fat Hen
714	Fat Hen
715	Fat Hen
716	Fat Hen
717	Fat Hen
718	Fat Hen
719	Fat Hen
720	Fat Hen
721	Fat Hen
722	Fat Hen

723	Fat Hen
724	Fat Hen
725	Fat Hen
726	Fat Hen
727	Fat Hen
728	Fat Hen
729	Fat Hen
730	Fat Hen
731	Fat Hen
732	Fat Hen
733	Fat Hen
734	Fat Hen
735	Fat Hen
736	Fat Hen
737	Fat Hen
738	Fat Hen
739	Fat Hen
740	Fat Hen
741	Fat Hen
742	Fat Hen
743	Fat Hen
744	Fat Hen
745	Fat Hen
746	Fat Hen
747	Fat Hen
748	Fat Hen
749	Fat Hen
750	Fat Hen
751	Fat Hen
752	Fat Hen
753	Fat Hen
754	Fat Hen
755	Fat Hen
756	Fat Hen
757	Fat Hen
758	Fat Hen
759	Fat Hen
760	Fat Hen
761	Fat Hen
762	Fat Hen
763	Fat Hen
764	Fat Hen
765	Fat Hen
766	Fat Hen
767	Fat Hen
768	Fat Hen
769	Fat Hen
770	Fat Hen
771	Fat Hen
772	Fat Hen
773	Fat Hen
774	Fat Hen
775	Fat Hen
776	Fat Hen
777	Fat Hen
778	Fat Hen
779	Fat Hen
780	Fat Hen
781	Fat Hen
782	Fat Hen
783	Fat Hen
784	Fat Hen
785	Fat Hen
786	Fat Hen
787	Fat Hen

788	Fat Hen
789	Fat Hen
790	Fat Hen
791	Fat Hen
792	Fat Hen
793	Fat Hen
794	Fat Hen
795	Fat Hen
796	Fat Hen
797	Fat Hen
798	Fat Hen
799	Fat Hen
800	Fat Hen
801	Fat Hen
802	Fat Hen
803	Fat Hen
804	Fat Hen
805	Fat Hen
806	Fat Hen
807	Fat Hen
808	Fat Hen
809	Fat Hen
810	Fat Hen
811	Fat Hen
812	Fat Hen
813	Fat Hen
814	Fat Hen
815	Fat Hen
816	Fat Hen
817	Fat Hen
818	Fat Hen
819	Fat Hen
820	Fat Hen
821	Fat Hen
822	Fat Hen
823	Fat Hen
824	Fat Hen
825	Fat Hen
826	Fat Hen
827	Fat Hen
828	Fat Hen
829	Fat Hen
830	Fat Hen
831	Fat Hen
832	Fat Hen
833	Fat Hen
834	Fat Hen
835	Fat Hen
836	Fat Hen
837	Fat Hen
838	Fat Hen
839	Fat Hen
840	Fat Hen
841	Fat Hen
842	Fat Hen
843	Fat Hen
844	Fat Hen
845	Fat Hen
846	Fat Hen
847	Fat Hen
848	Fat Hen
849	Fat Hen
850	Fat Hen
851	Fat Hen
852	Fat Hen

853	Fat Hen
854	Fat Hen
855	Fat Hen
856	Fat Hen
857	Fat Hen
858	Fat Hen
859	Fat Hen
860	Fat Hen
861	Fat Hen
862	Fat Hen
863	Fat Hen
864	Fat Hen
865	Fat Hen
866	Fat Hen
867	Fat Hen
868	Fat Hen
869	Fat Hen
870	Fat Hen
871	Fat Hen
872	Fat Hen
873	Fat Hen
874	Fat Hen
875	Fat Hen
876	Fat Hen
877	Fat Hen
878	Fat Hen
879	Fat Hen
880	Fat Hen
881	Fat Hen
882	Fat Hen
883	Fat Hen
884	Fat Hen
885	Fat Hen
886	Fat Hen
887	Fat Hen
888	Fat Hen
889	Fat Hen
890	Fat Hen
891	Fat Hen
892	Fat Hen
893	Fat Hen
894	Fat Hen
895	Fat Hen
896	Fat Hen
897	Fat Hen
898	Fat Hen
899	Fat Hen
900	Fat Hen
901	Fat Hen
902	Fat Hen
903	Fat Hen
904	Fat Hen
905	Fat Hen
906	Fat Hen
907	Fat Hen
908	Fat Hen
909	Fat Hen
910	Fat Hen
911	Fat Hen
912	Fat Hen
913	Fat Hen
914	Fat Hen
915	Fat Hen
916	Fat Hen
917	Fat Hen

918	Fat Hen
919	Fat Hen
920	Fat Hen
921	Fat Hen
922	Fat Hen
923	Fat Hen
924	Fat Hen
925	Fat Hen
926	Fat Hen
927	Fat Hen
928	Fat Hen
929	Fat Hen
930	Fat Hen
931	Fat Hen
932	Fat Hen
933	Fat Hen
934	Fat Hen
935	Fat Hen
936	Fat Hen
937	Fat Hen
938	Fat Hen
939	Fat Hen
940	Fat Hen
941	Fat Hen
942	Fat Hen
943	Fat Hen
944	Fat Hen
945	Fat Hen
946	Fat Hen
947	Fat Hen
948	Fat Hen
949	Fat Hen
950	Fat Hen
951	Fat Hen
952	Fat Hen
953	Fat Hen
954	Fat Hen
955	Fat Hen
956	Fat Hen
957	Fat Hen
958	Fat Hen
959	Fat Hen
960	Fat Hen
961	Fat Hen
962	Fat Hen
963	Fat Hen
964	Fat Hen
965	Fat Hen
966	Fat Hen
967	Fat Hen
968	Fat Hen
969	Fat Hen
970	Fat Hen
971	Shepherds Purse
972	Shepherds Purse
973	Shepherds Purse
974	Shepherds Purse
975	Shepherds Purse
976	Shepherds Purse
977	Shepherds Purse
978	Shepherds Purse
979	Shepherds Purse
980	Shepherds Purse
981	Shepherds Purse
982	Shepherds Purse

983	Shepherds Purse
984	Shepherds Purse
985	Shepherds Purse
986	Shepherds Purse
987	Shepherds Purse
988	Shepherds Purse
989	Shepherds Purse
990	Shepherds Purse
991	Shepherds Purse
992	Shepherds Purse
993	Shepherds Purse
994	Shepherds Purse
995	Shepherds Purse
996	Shepherds Purse
997	Shepherds Purse
998	Shepherds Purse
999	Shepherds Purse
1000	Shepherds Purse
1001	Shepherds Purse
1002	Shepherds Purse
1003	Shepherds Purse
1004	Shepherds Purse
1005	Shepherds Purse
1006	Shepherds Purse
1007	Shepherds Purse
1008	Shepherds Purse
1009	Shepherds Purse
1010	Shepherds Purse
1011	Shepherds Purse
1012	Shepherds Purse
1013	Shepherds Purse
1014	Shepherds Purse
1015	Shepherds Purse
1016	Shepherds Purse
1017	Shepherds Purse
1018	Shepherds Purse
1019	Shepherds Purse
1020	Shepherds Purse
1021	Shepherds Purse
1022	Shepherds Purse
1023	Shepherds Purse
1024	Shepherds Purse
1025	Shepherds Purse
1026	Shepherds Purse
1027	Shepherds Purse
1028	Shepherds Purse
1029	Shepherds Purse
1030	Shepherds Purse
1031	Shepherds Purse
1032	Shepherds Purse
1033	Shepherds Purse
1034	Shepherds Purse
1035	Shepherds Purse
1036	Shepherds Purse
1037	Shepherds Purse
1038	Shepherds Purse
1039	Shepherds Purse
1040	Shepherds Purse
1041	Shepherds Purse
1042	Shepherds Purse
1043	Shepherds Purse
1044	Shepherds Purse
1045	Shepherds Purse
1046	Shepherds Purse
1047	Shepherds Purse

1048	Shepherds Purse
1049	Shepherds Purse
1050	Shepherds Purse
1051	Shepherds Purse
1052	Shepherds Purse
1053	Shepherds Purse
1054	Shepherds Purse
1055	Shepherds Purse
1056	Shepherds Purse
1057	Shepherds Purse
1058	Shepherds Purse
1059	Shepherds Purse
1060	Shepherds Purse
1061	Shepherds Purse
1062	Shepherds Purse
1063	Shepherds Purse
1064	Shepherds Purse
1065	Shepherds Purse
1066	Shepherds Purse
1067	Shepherds Purse
1068	Shepherds Purse
1069	Shepherds Purse
1070	Shepherds Purse
1071	Shepherds Purse
1072	Shepherds Purse
1073	Shepherds Purse
1074	Shepherds Purse
1075	Shepherds Purse
1076	Shepherds Purse
1077	Shepherds Purse
1078	Shepherds Purse
1079	Shepherds Purse
1080	Shepherds Purse
1081	Shepherds Purse
1082	Shepherds Purse
1083	Shepherds Purse
1084	Shepherds Purse
1085	Shepherds Purse
1086	Shepherds Purse
1087	Shepherds Purse
1088	Shepherds Purse
1089	Shepherds Purse
1090	Shepherds Purse
1091	Shepherds Purse
1092	Shepherds Purse
1093	Shepherds Purse
1094	Shepherds Purse
1095	Shepherds Purse
1096	Shepherds Purse
1097	Shepherds Purse
1098	Shepherds Purse
1099	Shepherds Purse
1100	Shepherds Purse
1101	Shepherds Purse
1102	Shepherds Purse
1103	Shepherds Purse
1104	Shepherds Purse
1105	Shepherds Purse
1106	Shepherds Purse
1107	Shepherds Purse
1108	Shepherds Purse
1109	Shepherds Purse
1110	Shepherds Purse
1111	Shepherds Purse
1112	Shepherds Purse

1113	Shepherds Purse
1114	Shepherds Purse
1115	Shepherds Purse
1116	Shepherds Purse
1117	Shepherds Purse
1118	Shepherds Purse
1119	Shepherds Purse
1120	Shepherds Purse
1121	Shepherds Purse
1122	Shepherds Purse
1123	Shepherds Purse
1124	Shepherds Purse
1125	Shepherds Purse
1126	Shepherds Purse
1127	Shepherds Purse
1128	Shepherds Purse
1129	Shepherds Purse
1130	Shepherds Purse
1131	Shepherds Purse
1132	Shepherds Purse
1133	Shepherds Purse
1134	Shepherds Purse
1135	Shepherds Purse
1136	Shepherds Purse
1137	Shepherds Purse
1138	Shepherds Purse
1139	Shepherds Purse
1140	Shepherds Purse
1141	Shepherds Purse
1142	Shepherds Purse
1143	Shepherds Purse
1144	Shepherds Purse
1145	Shepherds Purse
1146	Shepherds Purse
1147	Shepherds Purse
1148	Shepherds Purse
1149	Shepherds Purse
1150	Shepherds Purse
1151	Shepherds Purse
1152	Shepherds Purse
1153	Shepherds Purse
1154	Shepherds Purse
1155	Shepherds Purse
1156	Shepherds Purse
1157	Shepherds Purse
1158	Shepherds Purse
1159	Shepherds Purse
1160	Shepherds Purse
1161	Shepherds Purse
1162	Shepherds Purse
1163	Shepherds Purse
1164	Shepherds Purse
1165	Shepherds Purse
1166	Shepherds Purse
1167	Shepherds Purse
1168	Shepherds Purse
1169	Shepherds Purse
1170	Shepherds Purse
1171	Shepherds Purse
1172	Shepherds Purse
1173	Shepherds Purse
1174	Shepherds Purse
1175	Shepherds Purse
1176	Shepherds Purse
1177	Shepherds Purse

1178	Shepherds Purse
1179	Shepherds Purse
1180	Shepherds Purse
1181	Shepherds Purse
1182	Shepherds Purse
1183	Shepherds Purse
1184	Shepherds Purse
1185	Shepherds Purse
1186	Shepherds Purse
1187	Shepherds Purse
1188	Shepherds Purse
1189	Shepherds Purse
1190	Shepherds Purse
1191	Shepherds Purse
1192	Shepherds Purse
1193	Shepherds Purse
1194	Shepherds Purse
1195	Shepherds Purse
1196	Shepherds Purse
1197	Shepherds Purse
1198	Shepherds Purse
1199	Shepherds Purse
1200	Shepherds Purse
1201	Shepherds Purse
1202	Common wheat
1203	Common wheat
1204	Common wheat
1205	Common wheat
1206	Common wheat
1207	Common wheat
1208	Common wheat
1209	Common wheat
1210	Common wheat
1211	Common wheat
1212	Common wheat
1213	Common wheat
1214	Common wheat
1215	Common wheat
1216	Common wheat
1217	Common wheat
1218	Common wheat
1219	Common wheat
1220	Common wheat
1221	Common wheat
1222	Common wheat
1223	Common wheat
1224	Common wheat
1225	Common wheat
1226	Common wheat
1227	Common wheat
1228	Common wheat
1229	Common wheat
1230	Common wheat
1231	Common wheat
1232	Common wheat
1233	Common wheat
1234	Common wheat
1235	Common wheat
1236	Common wheat
1237	Common wheat
1238	Common wheat
1239	Common wheat
1240	Common wheat
1241	Common wheat
1242	Common wheat

1243	Common wheat
1244	Common wheat
1245	Common wheat
1246	Common wheat
1247	Common wheat
1248	Common wheat
1249	Common wheat
1250	Common wheat
1251	Common wheat
1252	Common wheat
1253	Common wheat
1254	Common wheat
1255	Common wheat
1256	Common wheat
1257	Common wheat
1258	Common wheat
1259	Common wheat
1260	Common wheat
1261	Common wheat
1262	Common wheat
1263	Common wheat
1264	Common wheat
1265	Common wheat
1266	Common wheat
1267	Common wheat
1268	Common wheat
1269	Common wheat
1270	Common wheat
1271	Common wheat
1272	Common wheat
1273	Common wheat
1274	Common wheat
1275	Common wheat
1276	Common wheat
1277	Common wheat
1278	Common wheat
1279	Common wheat
1280	Common wheat
1281	Common wheat
1282	Common wheat
1283	Common wheat
1284	Common wheat
1285	Common wheat
1286	Common wheat
1287	Common wheat
1288	Common wheat
1289	Common wheat
1290	Common wheat
1291	Common wheat
1292	Common wheat
1293	Common wheat
1294	Common wheat
1295	Common wheat
1296	Common wheat
1297	Common wheat
1298	Common wheat
1299	Common wheat
1300	Common wheat
1301	Common wheat
1302	Common wheat
1303	Common wheat
1304	Common wheat
1305	Common wheat
1306	Common wheat
1307	Common wheat

1308	Common wheat
1309	Common wheat
1310	Common wheat
1311	Common wheat
1312	Common wheat
1313	Common wheat
1314	Common wheat
1315	Common wheat
1316	Common wheat
1317	Common wheat
1318	Common wheat
1319	Common wheat
1320	Common wheat
1321	Common wheat
1322	Common wheat
1323	Common wheat
1324	Common wheat
1325	Common wheat
1326	Common wheat
1327	Common wheat
1328	Common wheat
1329	Common wheat
1330	Common wheat
1331	Common wheat
1332	Common wheat
1333	Common wheat
1334	Common wheat
1335	Common wheat
1336	Common wheat
1337	Common wheat
1338	Common wheat
1339	Common wheat
1340	Common wheat
1341	Common wheat
1342	Common wheat
1343	Common wheat
1344	Common wheat
1345	Common wheat
1346	Common wheat
1347	Common wheat
1348	Common wheat
1349	Common wheat
1350	Common wheat
1351	Common wheat
1352	Common wheat
1353	Common wheat
1354	Common wheat
1355	Common wheat
1356	Common wheat
1357	Common wheat
1358	Common wheat
1359	Common wheat
1360	Common wheat
1361	Common wheat
1362	Common wheat
1363	Common wheat
1364	Common wheat
1365	Common wheat
1366	Common wheat
1367	Common wheat
1368	Common wheat
1369	Common wheat
1370	Common wheat
1371	Common wheat
1372	Common wheat

1373	Common wheat
1374	Common wheat
1375	Common wheat
1376	Common wheat
1377	Common wheat
1378	Common wheat
1379	Common wheat
1380	Common wheat
1381	Common wheat
1382	Common wheat
1383	Common wheat
1384	Common wheat
1385	Common wheat
1386	Common wheat
1387	Common wheat
1388	Common wheat
1389	Common wheat
1390	Common wheat
1391	Common wheat
1392	Common wheat
1393	Common wheat
1394	Common wheat
1395	Common wheat
1396	Common wheat
1397	Common wheat
1398	Common wheat
1399	Common wheat
1400	Common wheat
1401	Common wheat
1402	Common wheat
1403	Common wheat
1404	Common wheat
1405	Common wheat
1406	Common wheat
1407	Common wheat
1408	Common wheat
1409	Common wheat
1410	Common wheat
1411	Common wheat
1412	Common wheat
1413	Common wheat
1414	Common wheat
1415	Common wheat
1416	Common wheat
1417	Common wheat
1418	Common wheat
1419	Common wheat
1420	Common wheat
1421	Common wheat
1422	Common wheat
1423	Common Chickweed
1424	Common Chickweed
1425	Common Chickweed
1426	Common Chickweed
1427	Common Chickweed
1428	Common Chickweed
1429	Common Chickweed
1430	Common Chickweed
1431	Common Chickweed
1432	Common Chickweed
1433	Common Chickweed
1434	Common Chickweed
1435	Common Chickweed
1436	Common Chickweed
1437	Common Chickweed

1438	Common Chickweed
1439	Common Chickweed
1440	Common Chickweed
1441	Common Chickweed
1442	Common Chickweed
1443	Common Chickweed
1444	Common Chickweed
1445	Common Chickweed
1446	Common Chickweed
1447	Common Chickweed
1448	Common Chickweed
1449	Common Chickweed
1450	Common Chickweed
1451	Common Chickweed
1452	Common Chickweed
1453	Common Chickweed
1454	Common Chickweed
1455	Common Chickweed
1456	Common Chickweed
1457	Common Chickweed
1458	Common Chickweed
1459	Common Chickweed
1460	Common Chickweed
1461	Common Chickweed
1462	Common Chickweed
1463	Common Chickweed
1464	Common Chickweed
1465	Common Chickweed
1466	Common Chickweed
1467	Common Chickweed
1468	Common Chickweed
1469	Common Chickweed
1470	Common Chickweed
1471	Common Chickweed
1472	Common Chickweed
1473	Common Chickweed
1474	Common Chickweed
1475	Common Chickweed
1476	Common Chickweed
1477	Common Chickweed
1478	Common Chickweed
1479	Common Chickweed
1480	Common Chickweed
1481	Common Chickweed
1482	Common Chickweed
1483	Common Chickweed
1484	Common Chickweed
1485	Common Chickweed
1486	Common Chickweed
1487	Common Chickweed
1488	Common Chickweed
1489	Common Chickweed
1490	Common Chickweed
1491	Common Chickweed
1492	Common Chickweed
1493	Common Chickweed
1494	Common Chickweed
1495	Common Chickweed
1496	Common Chickweed
1497	Common Chickweed
1498	Common Chickweed
1499	Common Chickweed
1500	Common Chickweed
1501	Common Chickweed
1502	Common Chickweed

1503	Common Chickweed
1504	Common Chickweed
1505	Common Chickweed
1506	Common Chickweed
1507	Common Chickweed
1508	Common Chickweed
1509	Common Chickweed
1510	Common Chickweed
1511	Common Chickweed
1512	Common Chickweed
1513	Common Chickweed
1514	Common Chickweed
1515	Common Chickweed
1516	Common Chickweed
1517	Common Chickweed
1518	Common Chickweed
1519	Common Chickweed
1520	Common Chickweed
1521	Common Chickweed
1522	Common Chickweed
1523	Common Chickweed
1524	Common Chickweed
1525	Common Chickweed
1526	Common Chickweed
1527	Common Chickweed
1528	Common Chickweed
1529	Common Chickweed
1530	Common Chickweed
1531	Common Chickweed
1532	Common Chickweed
1533	Common Chickweed
1534	Common Chickweed
1535	Common Chickweed
1536	Common Chickweed
1537	Common Chickweed
1538	Common Chickweed
1539	Common Chickweed
1540	Common Chickweed
1541	Common Chickweed
1542	Common Chickweed
1543	Common Chickweed
1544	Common Chickweed
1545	Common Chickweed
1546	Common Chickweed
1547	Common Chickweed
1548	Common Chickweed
1549	Common Chickweed
1550	Common Chickweed
1551	Common Chickweed
1552	Common Chickweed
1553	Common Chickweed
1554	Common Chickweed
1555	Common Chickweed
1556	Common Chickweed
1557	Common Chickweed
1558	Common Chickweed
1559	Common Chickweed
1560	Common Chickweed
1561	Common Chickweed
1562	Common Chickweed
1563	Common Chickweed
1564	Common Chickweed
1565	Common Chickweed
1566	Common Chickweed
1567	Common Chickweed

1568	Common Chickweed
1569	Common Chickweed
1570	Common Chickweed
1571	Common Chickweed
1572	Common Chickweed
1573	Common Chickweed
1574	Common Chickweed
1575	Common Chickweed
1576	Common Chickweed
1577	Common Chickweed
1578	Common Chickweed
1579	Common Chickweed
1580	Common Chickweed
1581	Common Chickweed
1582	Common Chickweed
1583	Common Chickweed
1584	Common Chickweed
1585	Common Chickweed
1586	Common Chickweed
1587	Common Chickweed
1588	Common Chickweed
1589	Common Chickweed
1590	Common Chickweed
1591	Common Chickweed
1592	Common Chickweed
1593	Common Chickweed
1594	Common Chickweed
1595	Common Chickweed
1596	Common Chickweed
1597	Common Chickweed
1598	Common Chickweed
1599	Common Chickweed
1600	Common Chickweed
1601	Common Chickweed
1602	Common Chickweed
1603	Common Chickweed
1604	Common Chickweed
1605	Common Chickweed
1606	Common Chickweed
1607	Common Chickweed
1608	Common Chickweed
1609	Common Chickweed
1610	Common Chickweed
1611	Common Chickweed
1612	Common Chickweed
1613	Common Chickweed
1614	Common Chickweed
1615	Common Chickweed
1616	Common Chickweed
1617	Common Chickweed
1618	Common Chickweed
1619	Common Chickweed
1620	Common Chickweed
1621	Common Chickweed
1622	Common Chickweed
1623	Common Chickweed
1624	Common Chickweed
1625	Common Chickweed
1626	Common Chickweed
1627	Common Chickweed
1628	Common Chickweed
1629	Common Chickweed
1630	Common Chickweed
1631	Common Chickweed
1632	Common Chickweed

1633	Common Chickweed
1634	Common Chickweed
1635	Common Chickweed
1636	Common Chickweed
1637	Common Chickweed
1638	Common Chickweed
1639	Common Chickweed
1640	Common Chickweed
1641	Common Chickweed
1642	Common Chickweed
1643	Common Chickweed
1644	Common Chickweed
1645	Common Chickweed
1646	Common Chickweed
1647	Common Chickweed
1648	Common Chickweed
1649	Common Chickweed
1650	Common Chickweed
1651	Common Chickweed
1652	Common Chickweed
1653	Common Chickweed
1654	Common Chickweed
1655	Common Chickweed
1656	Common Chickweed
1657	Common Chickweed
1658	Common Chickweed
1659	Common Chickweed
1660	Common Chickweed
1661	Common Chickweed
1662	Common Chickweed
1663	Common Chickweed
1664	Common Chickweed
1665	Common Chickweed
1666	Common Chickweed
1667	Common Chickweed
1668	Common Chickweed
1669	Common Chickweed
1670	Common Chickweed
1671	Common Chickweed
1672	Common Chickweed
1673	Common Chickweed
1674	Common Chickweed
1675	Common Chickweed
1676	Common Chickweed
1677	Common Chickweed
1678	Common Chickweed
1679	Common Chickweed
1680	Common Chickweed
1681	Common Chickweed
1682	Common Chickweed
1683	Common Chickweed
1684	Common Chickweed
1685	Common Chickweed
1686	Common Chickweed
1687	Common Chickweed
1688	Common Chickweed
1689	Common Chickweed
1690	Common Chickweed
1691	Common Chickweed
1692	Common Chickweed
1693	Common Chickweed
1694	Common Chickweed
1695	Common Chickweed
1696	Common Chickweed
1697	Common Chickweed

1698	Common Chickweed
1699	Common Chickweed
1700	Common Chickweed
1701	Common Chickweed
1702	Common Chickweed
1703	Common Chickweed
1704	Common Chickweed
1705	Common Chickweed
1706	Common Chickweed
1707	Common Chickweed
1708	Common Chickweed
1709	Common Chickweed
1710	Common Chickweed
1711	Common Chickweed
1712	Common Chickweed
1713	Common Chickweed
1714	Common Chickweed
1715	Common Chickweed
1716	Common Chickweed
1717	Common Chickweed
1718	Common Chickweed
1719	Common Chickweed
1720	Common Chickweed
1721	Common Chickweed
1722	Common Chickweed
1723	Common Chickweed
1724	Common Chickweed
1725	Common Chickweed
1726	Common Chickweed
1727	Common Chickweed
1728	Common Chickweed
1729	Common Chickweed
1730	Common Chickweed
1731	Common Chickweed
1732	Common Chickweed
1733	Common Chickweed
1734	Common Chickweed
1735	Common Chickweed
1736	Common Chickweed
1737	Common Chickweed
1738	Common Chickweed
1739	Common Chickweed
1740	Common Chickweed
1741	Common Chickweed
1742	Common Chickweed
1743	Common Chickweed
1744	Common Chickweed
1745	Common Chickweed
1746	Common Chickweed
1747	Common Chickweed
1748	Common Chickweed
1749	Common Chickweed
1750	Common Chickweed
1751	Common Chickweed
1752	Common Chickweed
1753	Common Chickweed
1754	Common Chickweed
1755	Common Chickweed
1756	Common Chickweed
1757	Common Chickweed
1758	Common Chickweed
1759	Common Chickweed
1760	Common Chickweed
1761	Common Chickweed
1762	Common Chickweed

1763	Common Chickweed
1764	Common Chickweed
1765	Common Chickweed
1766	Common Chickweed
1767	Common Chickweed
1768	Common Chickweed
1769	Common Chickweed
1770	Common Chickweed
1771	Common Chickweed
1772	Common Chickweed
1773	Common Chickweed
1774	Common Chickweed
1775	Common Chickweed
1776	Common Chickweed
1777	Common Chickweed
1778	Common Chickweed
1779	Common Chickweed
1780	Common Chickweed
1781	Common Chickweed
1782	Common Chickweed
1783	Common Chickweed
1784	Common Chickweed
1785	Common Chickweed
1786	Common Chickweed
1787	Common Chickweed
1788	Common Chickweed
1789	Common Chickweed
1790	Common Chickweed
1791	Common Chickweed
1792	Common Chickweed
1793	Common Chickweed
1794	Common Chickweed
1795	Common Chickweed
1796	Common Chickweed
1797	Common Chickweed
1798	Common Chickweed
1799	Common Chickweed
1800	Common Chickweed
1801	Common Chickweed
1802	Common Chickweed
1803	Common Chickweed
1804	Common Chickweed
1805	Common Chickweed
1806	Common Chickweed
1807	Common Chickweed
1808	Common Chickweed
1809	Common Chickweed
1810	Common Chickweed
1811	Common Chickweed
1812	Common Chickweed
1813	Common Chickweed
1814	Common Chickweed
1815	Common Chickweed
1816	Common Chickweed
1817	Common Chickweed
1818	Common Chickweed
1819	Common Chickweed
1820	Common Chickweed
1821	Common Chickweed
1822	Common Chickweed
1823	Common Chickweed
1824	Common Chickweed
1825	Common Chickweed
1826	Common Chickweed
1827	Common Chickweed

1828	Common Chickweed
1829	Common Chickweed
1830	Common Chickweed
1831	Common Chickweed
1832	Common Chickweed
1833	Common Chickweed
1834	Common Chickweed
1835	Common Chickweed
1836	Common Chickweed
1837	Common Chickweed
1838	Common Chickweed
1839	Common Chickweed
1840	Common Chickweed
1841	Common Chickweed
1842	Common Chickweed
1843	Common Chickweed
1844	Common Chickweed
1845	Common Chickweed
1846	Common Chickweed
1847	Common Chickweed
1848	Common Chickweed
1849	Common Chickweed
1850	Common Chickweed
1851	Common Chickweed
1852	Common Chickweed
1853	Common Chickweed
1854	Common Chickweed
1855	Common Chickweed
1856	Common Chickweed
1857	Common Chickweed
1858	Common Chickweed
1859	Common Chickweed
1860	Common Chickweed
1861	Common Chickweed
1862	Common Chickweed
1863	Common Chickweed
1864	Common Chickweed
1865	Common Chickweed
1866	Common Chickweed
1867	Common Chickweed
1868	Common Chickweed
1869	Common Chickweed
1870	Common Chickweed
1871	Common Chickweed
1872	Common Chickweed
1873	Common Chickweed
1874	Common Chickweed
1875	Common Chickweed
1876	Common Chickweed
1877	Common Chickweed
1878	Common Chickweed
1879	Common Chickweed
1880	Common Chickweed
1881	Common Chickweed
1882	Common Chickweed
1883	Common Chickweed
1884	Common Chickweed
1885	Common Chickweed
1886	Common Chickweed
1887	Common Chickweed
1888	Common Chickweed
1889	Common Chickweed
1890	Common Chickweed
1891	Common Chickweed
1892	Common Chickweed

1893	Common Chickweed
1894	Common Chickweed
1895	Common Chickweed
1896	Common Chickweed
1897	Common Chickweed
1898	Common Chickweed
1899	Common Chickweed
1900	Common Chickweed
1901	Common Chickweed
1902	Common Chickweed
1903	Common Chickweed
1904	Common Chickweed
1905	Common Chickweed
1906	Common Chickweed
1907	Common Chickweed
1908	Common Chickweed
1909	Common Chickweed
1910	Common Chickweed
1911	Common Chickweed
1912	Common Chickweed
1913	Common Chickweed
1914	Common Chickweed
1915	Common Chickweed
1916	Common Chickweed
1917	Common Chickweed
1918	Common Chickweed
1919	Common Chickweed
1920	Common Chickweed
1921	Common Chickweed
1922	Common Chickweed
1923	Common Chickweed
1924	Common Chickweed
1925	Common Chickweed
1926	Common Chickweed
1927	Common Chickweed
1928	Common Chickweed
1929	Common Chickweed
1930	Common Chickweed
1931	Common Chickweed
1932	Common Chickweed
1933	Common Chickweed
1934	Common Chickweed
1935	Common Chickweed
1936	Common Chickweed
1937	Common Chickweed
1938	Common Chickweed
1939	Common Chickweed
1940	Common Chickweed
1941	Common Chickweed
1942	Common Chickweed
1943	Common Chickweed
1944	Common Chickweed
1945	Common Chickweed
1946	Common Chickweed
1947	Common Chickweed
1948	Common Chickweed
1949	Common Chickweed
1950	Common Chickweed
1951	Common Chickweed
1952	Common Chickweed
1953	Common Chickweed
1954	Common Chickweed
1955	Common Chickweed
1956	Common Chickweed
1957	Common Chickweed

1958	Common Chickweed
1959	Common Chickweed
1960	Common Chickweed
1961	Common Chickweed
1962	Common Chickweed
1963	Common Chickweed
1964	Common Chickweed
1965	Common Chickweed
1966	Common Chickweed
1967	Common Chickweed
1968	Common Chickweed
1969	Common Chickweed
1970	Common Chickweed
1971	Common Chickweed
1972	Common Chickweed
1973	Common Chickweed
1974	Common Chickweed
1975	Common Chickweed
1976	Common Chickweed
1977	Common Chickweed
1978	Common Chickweed
1979	Common Chickweed
1980	Common Chickweed
1981	Common Chickweed
1982	Common Chickweed
1983	Common Chickweed
1984	Common Chickweed
1985	Common Chickweed
1986	Common Chickweed
1987	Common Chickweed
1988	Common Chickweed
1989	Common Chickweed
1990	Common Chickweed
1991	Common Chickweed
1992	Common Chickweed
1993	Common Chickweed
1994	Common Chickweed
1995	Common Chickweed
1996	Common Chickweed
1997	Common Chickweed
1998	Common Chickweed
1999	Common Chickweed
2000	Common Chickweed
2001	Common Chickweed
2002	Common Chickweed
2003	Common Chickweed
2004	Common Chickweed
2005	Common Chickweed
2006	Common Chickweed
2007	Common Chickweed
2008	Common Chickweed
2009	Common Chickweed
2010	Common Chickweed
2011	Common Chickweed
2012	Common Chickweed
2013	Common Chickweed
2014	Common Chickweed
2015	Common Chickweed
2016	Common Chickweed
2017	Common Chickweed
2018	Common Chickweed
2019	Common Chickweed
2020	Common Chickweed
2021	Common Chickweed
2022	Common Chickweed

2023	Common Chickweed
2024	Common Chickweed
2025	Common Chickweed
2026	Common Chickweed
2027	Common Chickweed
2028	Common Chickweed
2029	Common Chickweed
2030	Common Chickweed
2031	Common Chickweed
2032	Common Chickweed
2033	Common Chickweed
2034	Charlock
2035	Charlock
2036	Charlock
2037	Charlock
2038	Charlock
2039	Charlock
2040	Charlock
2041	Charlock
2042	Charlock
2043	Charlock
2044	Charlock
2045	Charlock
2046	Charlock
2047	Charlock
2048	Charlock
2049	Charlock
2050	Charlock
2051	Charlock
2052	Charlock
2053	Charlock
2054	Charlock
2055	Charlock
2056	Charlock
2057	Charlock
2058	Charlock
2059	Charlock
2060	Charlock
2061	Charlock
2062	Charlock
2063	Charlock
2064	Charlock
2065	Charlock
2066	Charlock
2067	Charlock
2068	Charlock
2069	Charlock
2070	Charlock
2071	Charlock
2072	Charlock
2073	Charlock
2074	Charlock
2075	Charlock
2076	Charlock
2077	Charlock
2078	Charlock
2079	Charlock
2080	Charlock
2081	Charlock
2082	Charlock
2083	Charlock
2084	Charlock
2085	Charlock
2086	Charlock
2087	Charlock

2088	Charlock
2089	Charlock
2090	Charlock
2091	Charlock
2092	Charlock
2093	Charlock
2094	Charlock
2095	Charlock
2096	Charlock
2097	Charlock
2098	Charlock
2099	Charlock
2100	Charlock
2101	Charlock
2102	Charlock
2103	Charlock
2104	Charlock
2105	Charlock
2106	Charlock
2107	Charlock
2108	Charlock
2109	Charlock
2110	Charlock
2111	Charlock
2112	Charlock
2113	Charlock
2114	Charlock
2115	Charlock
2116	Charlock
2117	Charlock
2118	Charlock
2119	Charlock
2120	Charlock
2121	Charlock
2122	Charlock
2123	Charlock
2124	Charlock
2125	Charlock
2126	Charlock
2127	Charlock
2128	Charlock
2129	Charlock
2130	Charlock
2131	Charlock
2132	Charlock
2133	Charlock
2134	Charlock
2135	Charlock
2136	Charlock
2137	Charlock
2138	Charlock
2139	Charlock
2140	Charlock
2141	Charlock
2142	Charlock
2143	Charlock
2144	Charlock
2145	Charlock
2146	Charlock
2147	Charlock
2148	Charlock
2149	Charlock
2150	Charlock
2151	Charlock
2152	Charlock

2153	Charlock
2154	Charlock
2155	Charlock
2156	Charlock
2157	Charlock
2158	Charlock
2159	Charlock
2160	Charlock
2161	Charlock
2162	Charlock
2163	Charlock
2164	Charlock
2165	Charlock
2166	Charlock
2167	Charlock
2168	Charlock
2169	Charlock
2170	Charlock
2171	Charlock
2172	Charlock
2173	Charlock
2174	Charlock
2175	Charlock
2176	Charlock
2177	Charlock
2178	Charlock
2179	Charlock
2180	Charlock
2181	Charlock
2182	Charlock
2183	Charlock
2184	Charlock
2185	Charlock
2186	Charlock
2187	Charlock
2188	Charlock
2189	Charlock
2190	Charlock
2191	Charlock
2192	Charlock
2193	Charlock
2194	Charlock
2195	Charlock
2196	Charlock
2197	Charlock
2198	Charlock
2199	Charlock
2200	Charlock
2201	Charlock
2202	Charlock
2203	Charlock
2204	Charlock
2205	Charlock
2206	Charlock
2207	Charlock
2208	Charlock
2209	Charlock
2210	Charlock
2211	Charlock
2212	Charlock
2213	Charlock
2214	Charlock
2215	Charlock
2216	Charlock
2217	Charlock

2218	Charlock
2219	Charlock
2220	Charlock
2221	Charlock
2222	Charlock
2223	Charlock
2224	Charlock
2225	Charlock
2226	Charlock
2227	Charlock
2228	Charlock
2229	Charlock
2230	Charlock
2231	Charlock
2232	Charlock
2233	Charlock
2234	Charlock
2235	Charlock
2236	Charlock
2237	Charlock
2238	Charlock
2239	Charlock
2240	Charlock
2241	Charlock
2242	Charlock
2243	Charlock
2244	Charlock
2245	Charlock
2246	Charlock
2247	Charlock
2248	Charlock
2249	Charlock
2250	Charlock
2251	Charlock
2252	Charlock
2253	Charlock
2254	Charlock
2255	Charlock
2256	Charlock
2257	Charlock
2258	Charlock
2259	Charlock
2260	Charlock
2261	Charlock
2262	Charlock
2263	Charlock
2264	Charlock
2265	Charlock
2266	Charlock
2267	Charlock
2268	Charlock
2269	Charlock
2270	Charlock
2271	Charlock
2272	Charlock
2273	Charlock
2274	Charlock
2275	Charlock
2276	Charlock
2277	Charlock
2278	Charlock
2279	Charlock
2280	Charlock
2281	Charlock
2282	Charlock

2283	Charlock
2284	Charlock
2285	Charlock
2286	Charlock
2287	Charlock
2288	Charlock
2289	Charlock
2290	Charlock
2291	Charlock
2292	Charlock
2293	Charlock
2294	Charlock
2295	Charlock
2296	Charlock
2297	Charlock
2298	Charlock
2299	Charlock
2300	Charlock
2301	Charlock
2302	Charlock
2303	Charlock
2304	Charlock
2305	Charlock
2306	Charlock
2307	Charlock
2308	Charlock
2309	Charlock
2310	Charlock
2311	Charlock
2312	Charlock
2313	Charlock
2314	Charlock
2315	Charlock
2316	Charlock
2317	Charlock
2318	Charlock
2319	Charlock
2320	Charlock
2321	Charlock
2322	Charlock
2323	Charlock
2324	Charlock
2325	Charlock
2326	Charlock
2327	Charlock
2328	Charlock
2329	Charlock
2330	Charlock
2331	Charlock
2332	Charlock
2333	Charlock
2334	Charlock
2335	Charlock
2336	Charlock
2337	Charlock
2338	Charlock
2339	Charlock
2340	Charlock
2341	Charlock
2342	Charlock
2343	Charlock
2344	Charlock
2345	Charlock
2346	Charlock
2347	Charlock

2348	Charlock
2349	Charlock
2350	Charlock
2351	Charlock
2352	Charlock
2353	Charlock
2354	Charlock
2355	Charlock
2356	Charlock
2357	Charlock
2358	Charlock
2359	Charlock
2360	Charlock
2361	Charlock
2362	Charlock
2363	Charlock
2364	Charlock
2365	Charlock
2366	Charlock
2367	Charlock
2368	Charlock
2369	Charlock
2370	Charlock
2371	Charlock
2372	Charlock
2373	Charlock
2374	Charlock
2375	Charlock
2376	Charlock
2377	Charlock
2378	Charlock
2379	Charlock
2380	Charlock
2381	Charlock
2382	Charlock
2383	Charlock
2384	Charlock
2385	Charlock
2386	Charlock
2387	Charlock
2388	Charlock
2389	Charlock
2390	Charlock
2391	Charlock
2392	Charlock
2393	Charlock
2394	Charlock
2395	Charlock
2396	Charlock
2397	Charlock
2398	Charlock
2399	Charlock
2400	Charlock
2401	Charlock
2402	Charlock
2403	Charlock
2404	Charlock
2405	Charlock
2406	Charlock
2407	Charlock
2408	Charlock
2409	Charlock
2410	Charlock
2411	Charlock
2412	Charlock

2413	Charlock
2414	Charlock
2415	Charlock
2416	Charlock
2417	Charlock
2418	Charlock
2419	Charlock
2420	Charlock
2421	Charlock
2422	Charlock
2423	Charlock
2424	Cleavers
2425	Cleavers
2426	Cleavers
2427	Cleavers
2428	Cleavers
2429	Cleavers
2430	Cleavers
2431	Cleavers
2432	Cleavers
2433	Cleavers
2434	Cleavers
2435	Cleavers
2436	Cleavers
2437	Cleavers
2438	Cleavers
2439	Cleavers
2440	Cleavers
2441	Cleavers
2442	Cleavers
2443	Cleavers
2444	Cleavers
2445	Cleavers
2446	Cleavers
2447	Cleavers
2448	Cleavers
2449	Cleavers
2450	Cleavers
2451	Cleavers
2452	Cleavers
2453	Cleavers
2454	Cleavers
2455	Cleavers
2456	Cleavers
2457	Cleavers
2458	Cleavers
2459	Cleavers
2460	Cleavers
2461	Cleavers
2462	Cleavers
2463	Cleavers
2464	Cleavers
2465	Cleavers
2466	Cleavers
2467	Cleavers
2468	Cleavers
2469	Cleavers
2470	Cleavers
2471	Cleavers
2472	Cleavers
2473	Cleavers
2474	Cleavers
2475	Cleavers
2476	Cleavers
2477	Cleavers

2478	Cleavers
2479	Cleavers
2480	Cleavers
2481	Cleavers
2482	Cleavers
2483	Cleavers
2484	Cleavers
2485	Cleavers
2486	Cleavers
2487	Cleavers
2488	Cleavers
2489	Cleavers
2490	Cleavers
2491	Cleavers
2492	Cleavers
2493	Cleavers
2494	Cleavers
2495	Cleavers
2496	Cleavers
2497	Cleavers
2498	Cleavers
2499	Cleavers
2500	Cleavers
2501	Cleavers
2502	Cleavers
2503	Cleavers
2504	Cleavers
2505	Cleavers
2506	Cleavers
2507	Cleavers
2508	Cleavers
2509	Cleavers
2510	Cleavers
2511	Cleavers
2512	Cleavers
2513	Cleavers
2514	Cleavers
2515	Cleavers
2516	Cleavers
2517	Cleavers
2518	Cleavers
2519	Cleavers
2520	Cleavers
2521	Cleavers
2522	Cleavers
2523	Cleavers
2524	Cleavers
2525	Cleavers
2526	Cleavers
2527	Cleavers
2528	Cleavers
2529	Cleavers
2530	Cleavers
2531	Cleavers
2532	Cleavers
2533	Cleavers
2534	Cleavers
2535	Cleavers
2536	Cleavers
2537	Cleavers
2538	Cleavers
2539	Cleavers
2540	Cleavers
2541	Cleavers
2542	Cleavers

2543	Cleavers
2544	Cleavers
2545	Cleavers
2546	Cleavers
2547	Cleavers
2548	Cleavers
2549	Cleavers
2550	Cleavers
2551	Cleavers
2552	Cleavers
2553	Cleavers
2554	Cleavers
2555	Cleavers
2556	Cleavers
2557	Cleavers
2558	Cleavers
2559	Cleavers
2560	Cleavers
2561	Cleavers
2562	Cleavers
2563	Cleavers
2564	Cleavers
2565	Cleavers
2566	Cleavers
2567	Cleavers
2568	Cleavers
2569	Cleavers
2570	Cleavers
2571	Cleavers
2572	Cleavers
2573	Cleavers
2574	Cleavers
2575	Cleavers
2576	Cleavers
2577	Cleavers
2578	Cleavers
2579	Cleavers
2580	Cleavers
2581	Cleavers
2582	Cleavers
2583	Cleavers
2584	Cleavers
2585	Cleavers
2586	Cleavers
2587	Cleavers
2588	Cleavers
2589	Cleavers
2590	Cleavers
2591	Cleavers
2592	Cleavers
2593	Cleavers
2594	Cleavers
2595	Cleavers
2596	Cleavers
2597	Cleavers
2598	Cleavers
2599	Cleavers
2600	Cleavers
2601	Cleavers
2602	Cleavers
2603	Cleavers
2604	Cleavers
2605	Cleavers
2606	Cleavers
2607	Cleavers

2608	Cleavers
2609	Cleavers
2610	Cleavers
2611	Cleavers
2612	Cleavers
2613	Cleavers
2614	Cleavers
2615	Cleavers
2616	Cleavers
2617	Cleavers
2618	Cleavers
2619	Cleavers
2620	Cleavers
2621	Cleavers
2622	Cleavers
2623	Cleavers
2624	Cleavers
2625	Cleavers
2626	Cleavers
2627	Cleavers
2628	Cleavers
2629	Cleavers
2630	Cleavers
2631	Cleavers
2632	Cleavers
2633	Cleavers
2634	Cleavers
2635	Cleavers
2636	Cleavers
2637	Cleavers
2638	Cleavers
2639	Cleavers
2640	Cleavers
2641	Cleavers
2642	Cleavers
2643	Cleavers
2644	Cleavers
2645	Cleavers
2646	Cleavers
2647	Cleavers
2648	Cleavers
2649	Cleavers
2650	Cleavers
2651	Cleavers
2652	Cleavers
2653	Cleavers
2654	Cleavers
2655	Cleavers
2656	Cleavers
2657	Cleavers
2658	Cleavers
2659	Cleavers
2660	Cleavers
2661	Cleavers
2662	Cleavers
2663	Cleavers
2664	Cleavers
2665	Cleavers
2666	Cleavers
2667	Cleavers
2668	Cleavers
2669	Cleavers
2670	Cleavers
2671	Cleavers
2672	Cleavers

2673	Cleavers
2674	Cleavers
2675	Cleavers
2676	Cleavers
2677	Cleavers
2678	Cleavers
2679	Cleavers
2680	Cleavers
2681	Cleavers
2682	Cleavers
2683	Cleavers
2684	Cleavers
2685	Cleavers
2686	Cleavers
2687	Cleavers
2688	Cleavers
2689	Cleavers
2690	Cleavers
2691	Cleavers
2692	Cleavers
2693	Cleavers
2694	Cleavers
2695	Cleavers
2696	Cleavers
2697	Cleavers
2698	Cleavers
2699	Cleavers
2700	Cleavers
2701	Cleavers
2702	Cleavers
2703	Cleavers
2704	Cleavers
2705	Cleavers
2706	Cleavers
2707	Cleavers
2708	Cleavers
2709	Cleavers
2710	Cleavers
2711	Scentless Mayweed
2712	Scentless Mayweed
2713	Scentless Mayweed
2714	Scentless Mayweed
2715	Scentless Mayweed
2716	Scentless Mayweed
2717	Scentless Mayweed
2718	Scentless Mayweed
2719	Scentless Mayweed
2720	Scentless Mayweed
2721	Scentless Mayweed
2722	Scentless Mayweed
2723	Scentless Mayweed
2724	Scentless Mayweed
2725	Scentless Mayweed
2726	Scentless Mayweed
2727	Scentless Mayweed
2728	Scentless Mayweed
2729	Scentless Mayweed
2730	Scentless Mayweed
2731	Scentless Mayweed
2732	Scentless Mayweed
2733	Scentless Mayweed
2734	Scentless Mayweed
2735	Scentless Mayweed
2736	Scentless Mayweed
2737	Scentless Mayweed

2738	Scentless	Mayweed
2739	Scentless	Mayweed
2740	Scentless	Mayweed
2741	Scentless	Mayweed
2742	Scentless	Mayweed
2743	Scentless	Mayweed
2744	Scentless	Mayweed
2745	Scentless	Mayweed
2746	Scentless	Mayweed
2747	Scentless	Mayweed
2748	Scentless	Mayweed
2749	Scentless	Mayweed
2750	Scentless	Mayweed
2751	Scentless	Mayweed
2752	Scentless	Mayweed
2753	Scentless	Mayweed
2754	Scentless	Mayweed
2755	Scentless	Mayweed
2756	Scentless	Mayweed
2757	Scentless	Mayweed
2758	Scentless	Mayweed
2759	Scentless	Mayweed
2760	Scentless	Mayweed
2761	Scentless	Mayweed
2762	Scentless	Mayweed
2763	Scentless	Mayweed
2764	Scentless	Mayweed
2765	Scentless	Mayweed
2766	Scentless	Mayweed
2767	Scentless	Mayweed
2768	Scentless	Mayweed
2769	Scentless	Mayweed
2770	Scentless	Mayweed
2771	Scentless	Mayweed
2772	Scentless	Mayweed
2773	Scentless	Mayweed
2774	Scentless	Mayweed
2775	Scentless	Mayweed
2776	Scentless	Mayweed
2777	Scentless	Mayweed
2778	Scentless	Mayweed
2779	Scentless	Mayweed
2780	Scentless	Mayweed
2781	Scentless	Mayweed
2782	Scentless	Mayweed
2783	Scentless	Mayweed
2784	Scentless	Mayweed
2785	Scentless	Mayweed
2786	Scentless	Mayweed
2787	Scentless	Mayweed
2788	Scentless	Mayweed
2789	Scentless	Mayweed
2790	Scentless	Mayweed
2791	Scentless	Mayweed
2792	Scentless	Mayweed
2793	Scentless	Mayweed
2794	Scentless	Mayweed
2795	Scentless	Mayweed
2796	Scentless	Mayweed
2797	Scentless	Mayweed
2798	Scentless	Mayweed
2799	Scentless	Mayweed
2800	Scentless	Mayweed
2801	Scentless	Mayweed
2802	Scentless	Mayweed

2803	Scentless	Mayweed
2804	Scentless	Mayweed
2805	Scentless	Mayweed
2806	Scentless	Mayweed
2807	Scentless	Mayweed
2808	Scentless	Mayweed
2809	Scentless	Mayweed
2810	Scentless	Mayweed
2811	Scentless	Mayweed
2812	Scentless	Mayweed
2813	Scentless	Mayweed
2814	Scentless	Mayweed
2815	Scentless	Mayweed
2816	Scentless	Mayweed
2817	Scentless	Mayweed
2818	Scentless	Mayweed
2819	Scentless	Mayweed
2820	Scentless	Mayweed
2821	Scentless	Mayweed
2822	Scentless	Mayweed
2823	Scentless	Mayweed
2824	Scentless	Mayweed
2825	Scentless	Mayweed
2826	Scentless	Mayweed
2827	Scentless	Mayweed
2828	Scentless	Mayweed
2829	Scentless	Mayweed
2830	Scentless	Mayweed
2831	Scentless	Mayweed
2832	Scentless	Mayweed
2833	Scentless	Mayweed
2834	Scentless	Mayweed
2835	Scentless	Mayweed
2836	Scentless	Mayweed
2837	Scentless	Mayweed
2838	Scentless	Mayweed
2839	Scentless	Mayweed
2840	Scentless	Mayweed
2841	Scentless	Mayweed
2842	Scentless	Mayweed
2843	Scentless	Mayweed
2844	Scentless	Mayweed
2845	Scentless	Mayweed
2846	Scentless	Mayweed
2847	Scentless	Mayweed
2848	Scentless	Mayweed
2849	Scentless	Mayweed
2850	Scentless	Mayweed
2851	Scentless	Mayweed
2852	Scentless	Mayweed
2853	Scentless	Mayweed
2854	Scentless	Mayweed
2855	Scentless	Mayweed
2856	Scentless	Mayweed
2857	Scentless	Mayweed
2858	Scentless	Mayweed
2859	Scentless	Mayweed
2860	Scentless	Mayweed
2861	Scentless	Mayweed
2862	Scentless	Mayweed
2863	Scentless	Mayweed
2864	Scentless	Mayweed
2865	Scentless	Mayweed
2866	Scentless	Mayweed
2867	Scentless	Mayweed

2868	Scentless	Mayweed
2869	Scentless	Mayweed
2870	Scentless	Mayweed
2871	Scentless	Mayweed
2872	Scentless	Mayweed
2873	Scentless	Mayweed
2874	Scentless	Mayweed
2875	Scentless	Mayweed
2876	Scentless	Mayweed
2877	Scentless	Mayweed
2878	Scentless	Mayweed
2879	Scentless	Mayweed
2880	Scentless	Mayweed
2881	Scentless	Mayweed
2882	Scentless	Mayweed
2883	Scentless	Mayweed
2884	Scentless	Mayweed
2885	Scentless	Mayweed
2886	Scentless	Mayweed
2887	Scentless	Mayweed
2888	Scentless	Mayweed
2889	Scentless	Mayweed
2890	Scentless	Mayweed
2891	Scentless	Mayweed
2892	Scentless	Mayweed
2893	Scentless	Mayweed
2894	Scentless	Mayweed
2895	Scentless	Mayweed
2896	Scentless	Mayweed
2897	Scentless	Mayweed
2898	Scentless	Mayweed
2899	Scentless	Mayweed
2900	Scentless	Mayweed
2901	Scentless	Mayweed
2902	Scentless	Mayweed
2903	Scentless	Mayweed
2904	Scentless	Mayweed
2905	Scentless	Mayweed
2906	Scentless	Mayweed
2907	Scentless	Mayweed
2908	Scentless	Mayweed
2909	Scentless	Mayweed
2910	Scentless	Mayweed
2911	Scentless	Mayweed
2912	Scentless	Mayweed
2913	Scentless	Mayweed
2914	Scentless	Mayweed
2915	Scentless	Mayweed
2916	Scentless	Mayweed
2917	Scentless	Mayweed
2918	Scentless	Mayweed
2919	Scentless	Mayweed
2920	Scentless	Mayweed
2921	Scentless	Mayweed
2922	Scentless	Mayweed
2923	Scentless	Mayweed
2924	Scentless	Mayweed
2925	Scentless	Mayweed
2926	Scentless	Mayweed
2927	Scentless	Mayweed
2928	Scentless	Mayweed
2929	Scentless	Mayweed
2930	Scentless	Mayweed
2931	Scentless	Mayweed
2932	Scentless	Mayweed

2933	Scentless	Mayweed
2934	Scentless	Mayweed
2935	Scentless	Mayweed
2936	Scentless	Mayweed
2937	Scentless	Mayweed
2938	Scentless	Mayweed
2939	Scentless	Mayweed
2940	Scentless	Mayweed
2941	Scentless	Mayweed
2942	Scentless	Mayweed
2943	Scentless	Mayweed
2944	Scentless	Mayweed
2945	Scentless	Mayweed
2946	Scentless	Mayweed
2947	Scentless	Mayweed
2948	Scentless	Mayweed
2949	Scentless	Mayweed
2950	Scentless	Mayweed
2951	Scentless	Mayweed
2952	Scentless	Mayweed
2953	Scentless	Mayweed
2954	Scentless	Mayweed
2955	Scentless	Mayweed
2956	Scentless	Mayweed
2957	Scentless	Mayweed
2958	Scentless	Mayweed
2959	Scentless	Mayweed
2960	Scentless	Mayweed
2961	Scentless	Mayweed
2962	Scentless	Mayweed
2963	Scentless	Mayweed
2964	Scentless	Mayweed
2965	Scentless	Mayweed
2966	Scentless	Mayweed
2967	Scentless	Mayweed
2968	Scentless	Mayweed
2969	Scentless	Mayweed
2970	Scentless	Mayweed
2971	Scentless	Mayweed
2972	Scentless	Mayweed
2973	Scentless	Mayweed
2974	Scentless	Mayweed
2975	Scentless	Mayweed
2976	Scentless	Mayweed
2977	Scentless	Mayweed
2978	Scentless	Mayweed
2979	Scentless	Mayweed
2980	Scentless	Mayweed
2981	Scentless	Mayweed
2982	Scentless	Mayweed
2983	Scentless	Mayweed
2984	Scentless	Mayweed
2985	Scentless	Mayweed
2986	Scentless	Mayweed
2987	Scentless	Mayweed
2988	Scentless	Mayweed
2989	Scentless	Mayweed
2990	Scentless	Mayweed
2991	Scentless	Mayweed
2992	Scentless	Mayweed
2993	Scentless	Mayweed
2994	Scentless	Mayweed
2995	Scentless	Mayweed
2996	Scentless	Mayweed
2997	Scentless	Mayweed

2998	Scentless	Mayweed
2999	Scentless	Mayweed
3000	Scentless	Mayweed
3001	Scentless	Mayweed
3002	Scentless	Mayweed
3003	Scentless	Mayweed
3004	Scentless	Mayweed
3005	Scentless	Mayweed
3006	Scentless	Mayweed
3007	Scentless	Mayweed
3008	Scentless	Mayweed
3009	Scentless	Mayweed
3010	Scentless	Mayweed
3011	Scentless	Mayweed
3012	Scentless	Mayweed
3013	Scentless	Mayweed
3014	Scentless	Mayweed
3015	Scentless	Mayweed
3016	Scentless	Mayweed
3017	Scentless	Mayweed
3018	Scentless	Mayweed
3019	Scentless	Mayweed
3020	Scentless	Mayweed
3021	Scentless	Mayweed
3022	Scentless	Mayweed
3023	Scentless	Mayweed
3024	Scentless	Mayweed
3025	Scentless	Mayweed
3026	Scentless	Mayweed
3027	Scentless	Mayweed
3028	Scentless	Mayweed
3029	Scentless	Mayweed
3030	Scentless	Mayweed
3031	Scentless	Mayweed
3032	Scentless	Mayweed
3033	Scentless	Mayweed
3034	Scentless	Mayweed
3035	Scentless	Mayweed
3036	Scentless	Mayweed
3037	Scentless	Mayweed
3038	Scentless	Mayweed
3039	Scentless	Mayweed
3040	Scentless	Mayweed
3041	Scentless	Mayweed
3042	Scentless	Mayweed
3043	Scentless	Mayweed
3044	Scentless	Mayweed
3045	Scentless	Mayweed
3046	Scentless	Mayweed
3047	Scentless	Mayweed
3048	Scentless	Mayweed
3049	Scentless	Mayweed
3050	Scentless	Mayweed
3051	Scentless	Mayweed
3052	Scentless	Mayweed
3053	Scentless	Mayweed
3054	Scentless	Mayweed
3055	Scentless	Mayweed
3056	Scentless	Mayweed
3057	Scentless	Mayweed
3058	Scentless	Mayweed
3059	Scentless	Mayweed
3060	Scentless	Mayweed
3061	Scentless	Mayweed
3062	Scentless	Mayweed

3063	Scentless	Mayweed
3064	Scentless	Mayweed
3065	Scentless	Mayweed
3066	Scentless	Mayweed
3067	Scentless	Mayweed
3068	Scentless	Mayweed
3069	Scentless	Mayweed
3070	Scentless	Mayweed
3071	Scentless	Mayweed
3072	Scentless	Mayweed
3073	Scentless	Mayweed
3074	Scentless	Mayweed
3075	Scentless	Mayweed
3076	Scentless	Mayweed
3077	Scentless	Mayweed
3078	Scentless	Mayweed
3079	Scentless	Mayweed
3080	Scentless	Mayweed
3081	Scentless	Mayweed
3082	Scentless	Mayweed
3083	Scentless	Mayweed
3084	Scentless	Mayweed
3085	Scentless	Mayweed
3086	Scentless	Mayweed
3087	Scentless	Mayweed
3088	Scentless	Mayweed
3089	Scentless	Mayweed
3090	Scentless	Mayweed
3091	Scentless	Mayweed
3092	Scentless	Mayweed
3093	Scentless	Mayweed
3094	Scentless	Mayweed
3095	Scentless	Mayweed
3096	Scentless	Mayweed
3097	Scentless	Mayweed
3098	Scentless	Mayweed
3099	Scentless	Mayweed
3100	Scentless	Mayweed
3101	Scentless	Mayweed
3102	Scentless	Mayweed
3103	Scentless	Mayweed
3104	Scentless	Mayweed
3105	Scentless	Mayweed
3106	Scentless	Mayweed
3107	Scentless	Mayweed
3108	Scentless	Mayweed
3109	Scentless	Mayweed
3110	Scentless	Mayweed
3111	Scentless	Mayweed
3112	Scentless	Mayweed
3113	Scentless	Mayweed
3114	Scentless	Mayweed
3115	Scentless	Mayweed
3116	Scentless	Mayweed
3117	Scentless	Mayweed
3118	Scentless	Mayweed
3119	Scentless	Mayweed
3120	Scentless	Mayweed
3121	Scentless	Mayweed
3122	Scentless	Mayweed
3123	Scentless	Mayweed
3124	Scentless	Mayweed
3125	Scentless	Mayweed
3126	Scentless	Mayweed
3127	Scentless	Mayweed

3128	Scentless	Mayweed
3129	Scentless	Mayweed
3130	Scentless	Mayweed
3131	Scentless	Mayweed
3132	Scentless	Mayweed
3133	Scentless	Mayweed
3134	Scentless	Mayweed
3135	Scentless	Mayweed
3136	Scentless	Mayweed
3137	Scentless	Mayweed
3138	Scentless	Mayweed
3139	Scentless	Mayweed
3140	Scentless	Mayweed
3141	Scentless	Mayweed
3142	Scentless	Mayweed
3143	Scentless	Mayweed
3144	Scentless	Mayweed
3145	Scentless	Mayweed
3146	Scentless	Mayweed
3147	Scentless	Mayweed
3148	Scentless	Mayweed
3149	Scentless	Mayweed
3150	Scentless	Mayweed
3151	Scentless	Mayweed
3152	Scentless	Mayweed
3153	Scentless	Mayweed
3154	Scentless	Mayweed
3155	Scentless	Mayweed
3156	Scentless	Mayweed
3157	Scentless	Mayweed
3158	Scentless	Mayweed
3159	Scentless	Mayweed
3160	Scentless	Mayweed
3161	Scentless	Mayweed
3162	Scentless	Mayweed
3163	Scentless	Mayweed
3164	Scentless	Mayweed
3165	Scentless	Mayweed
3166	Scentless	Mayweed
3167	Scentless	Mayweed
3168	Scentless	Mayweed
3169	Scentless	Mayweed
3170	Scentless	Mayweed
3171	Scentless	Mayweed
3172	Scentless	Mayweed
3173	Scentless	Mayweed
3174	Scentless	Mayweed
3175	Scentless	Mayweed
3176	Scentless	Mayweed
3177	Scentless	Mayweed
3178	Scentless	Mayweed
3179	Scentless	Mayweed
3180	Scentless	Mayweed
3181	Scentless	Mayweed
3182	Scentless	Mayweed
3183	Scentless	Mayweed
3184	Scentless	Mayweed
3185	Scentless	Mayweed
3186	Scentless	Mayweed
3187	Scentless	Mayweed
3188	Scentless	Mayweed
3189	Scentless	Mayweed
3190	Scentless	Mayweed
3191	Scentless	Mayweed
3192	Scentless	Mayweed

3193	Scentless Mayweed
3194	Scentless Mayweed
3195	Scentless Mayweed
3196	Scentless Mayweed
3197	Scentless Mayweed
3198	Scentless Mayweed
3199	Scentless Mayweed
3200	Scentless Mayweed
3201	Scentless Mayweed
3202	Scentless Mayweed
3203	Scentless Mayweed
3204	Scentless Mayweed
3205	Scentless Mayweed
3206	Scentless Mayweed
3207	Scentless Mayweed
3208	Scentless Mayweed
3209	Scentless Mayweed
3210	Scentless Mayweed
3211	Scentless Mayweed
3212	Scentless Mayweed
3213	Scentless Mayweed
3214	Scentless Mayweed
3215	Scentless Mayweed
3216	Scentless Mayweed
3217	Scentless Mayweed
3218	Scentless Mayweed
3219	Scentless Mayweed
3220	Scentless Mayweed
3221	Scentless Mayweed
3222	Scentless Mayweed
3223	Scentless Mayweed
3224	Scentless Mayweed
3225	Scentless Mayweed
3226	Scentless Mayweed
3227	Sugar beet
3228	Sugar beet
3229	Sugar beet
3230	Sugar beet
3231	Sugar beet
3232	Sugar beet
3233	Sugar beet
3234	Sugar beet
3235	Sugar beet
3236	Sugar beet
3237	Sugar beet
3238	Sugar beet
3239	Sugar beet
3240	Sugar beet
3241	Sugar beet
3242	Sugar beet
3243	Sugar beet
3244	Sugar beet
3245	Sugar beet
3246	Sugar beet
3247	Sugar beet
3248	Sugar beet
3249	Sugar beet
3250	Sugar beet
3251	Sugar beet
3252	Sugar beet
3253	Sugar beet
3254	Sugar beet
3255	Sugar beet
3256	Sugar beet
3257	Sugar beet

3258	Sugar beet
3259	Sugar beet
3260	Sugar beet
3261	Sugar beet
3262	Sugar beet
3263	Sugar beet
3264	Sugar beet
3265	Sugar beet
3266	Sugar beet
3267	Sugar beet
3268	Sugar beet
3269	Sugar beet
3270	Sugar beet
3271	Sugar beet
3272	Sugar beet
3273	Sugar beet
3274	Sugar beet
3275	Sugar beet
3276	Sugar beet
3277	Sugar beet
3278	Sugar beet
3279	Sugar beet
3280	Sugar beet
3281	Sugar beet
3282	Sugar beet
3283	Sugar beet
3284	Sugar beet
3285	Sugar beet
3286	Sugar beet
3287	Sugar beet
3288	Sugar beet
3289	Sugar beet
3290	Sugar beet
3291	Sugar beet
3292	Sugar beet
3293	Sugar beet
3294	Sugar beet
3295	Sugar beet
3296	Sugar beet
3297	Sugar beet
3298	Sugar beet
3299	Sugar beet
3300	Sugar beet
3301	Sugar beet
3302	Sugar beet
3303	Sugar beet
3304	Sugar beet
3305	Sugar beet
3306	Sugar beet
3307	Sugar beet
3308	Sugar beet
3309	Sugar beet
3310	Sugar beet
3311	Sugar beet
3312	Sugar beet
3313	Sugar beet
3314	Sugar beet
3315	Sugar beet
3316	Sugar beet
3317	Sugar beet
3318	Sugar beet
3319	Sugar beet
3320	Sugar beet
3321	Sugar beet
3322	Sugar beet

3323	Sugar beet
3324	Sugar beet
3325	Sugar beet
3326	Sugar beet
3327	Sugar beet
3328	Sugar beet
3329	Sugar beet
3330	Sugar beet
3331	Sugar beet
3332	Sugar beet
3333	Sugar beet
3334	Sugar beet
3335	Sugar beet
3336	Sugar beet
3337	Sugar beet
3338	Sugar beet
3339	Sugar beet
3340	Sugar beet
3341	Sugar beet
3342	Sugar beet
3343	Sugar beet
3344	Sugar beet
3345	Sugar beet
3346	Sugar beet
3347	Sugar beet
3348	Sugar beet
3349	Sugar beet
3350	Sugar beet
3351	Sugar beet
3352	Sugar beet
3353	Sugar beet
3354	Sugar beet
3355	Sugar beet
3356	Sugar beet
3357	Sugar beet
3358	Sugar beet
3359	Sugar beet
3360	Sugar beet
3361	Sugar beet
3362	Sugar beet
3363	Sugar beet
3364	Sugar beet
3365	Sugar beet
3366	Sugar beet
3367	Sugar beet
3368	Sugar beet
3369	Sugar beet
3370	Sugar beet
3371	Sugar beet
3372	Sugar beet
3373	Sugar beet
3374	Sugar beet
3375	Sugar beet
3376	Sugar beet
3377	Sugar beet
3378	Sugar beet
3379	Sugar beet
3380	Sugar beet
3381	Sugar beet
3382	Sugar beet
3383	Sugar beet
3384	Sugar beet
3385	Sugar beet
3386	Sugar beet
3387	Sugar beet

3388	Sugar beet
3389	Sugar beet
3390	Sugar beet
3391	Sugar beet
3392	Sugar beet
3393	Sugar beet
3394	Sugar beet
3395	Sugar beet
3396	Sugar beet
3397	Sugar beet
3398	Sugar beet
3399	Sugar beet
3400	Sugar beet
3401	Sugar beet
3402	Sugar beet
3403	Sugar beet
3404	Sugar beet
3405	Sugar beet
3406	Sugar beet
3407	Sugar beet
3408	Sugar beet
3409	Sugar beet
3410	Sugar beet
3411	Sugar beet
3412	Sugar beet
3413	Sugar beet
3414	Sugar beet
3415	Sugar beet
3416	Sugar beet
3417	Sugar beet
3418	Sugar beet
3419	Sugar beet
3420	Sugar beet
3421	Sugar beet
3422	Sugar beet
3423	Sugar beet
3424	Sugar beet
3425	Sugar beet
3426	Sugar beet
3427	Sugar beet
3428	Sugar beet
3429	Sugar beet
3430	Sugar beet
3431	Sugar beet
3432	Sugar beet
3433	Sugar beet
3434	Sugar beet
3435	Sugar beet
3436	Sugar beet
3437	Sugar beet
3438	Sugar beet
3439	Sugar beet
3440	Sugar beet
3441	Sugar beet
3442	Sugar beet
3443	Sugar beet
3444	Sugar beet
3445	Sugar beet
3446	Sugar beet
3447	Sugar beet
3448	Sugar beet
3449	Sugar beet
3450	Sugar beet
3451	Sugar beet
3452	Sugar beet

3453	Sugar beet
3454	Sugar beet
3455	Sugar beet
3456	Sugar beet
3457	Sugar beet
3458	Sugar beet
3459	Sugar beet
3460	Sugar beet
3461	Sugar beet
3462	Sugar beet
3463	Sugar beet
3464	Sugar beet
3465	Sugar beet
3466	Sugar beet
3467	Sugar beet
3468	Sugar beet
3469	Sugar beet
3470	Sugar beet
3471	Sugar beet
3472	Sugar beet
3473	Sugar beet
3474	Sugar beet
3475	Sugar beet
3476	Sugar beet
3477	Sugar beet
3478	Sugar beet
3479	Sugar beet
3480	Sugar beet
3481	Sugar beet
3482	Sugar beet
3483	Sugar beet
3484	Sugar beet
3485	Sugar beet
3486	Sugar beet
3487	Sugar beet
3488	Sugar beet
3489	Sugar beet
3490	Sugar beet
3491	Sugar beet
3492	Sugar beet
3493	Sugar beet
3494	Sugar beet
3495	Sugar beet
3496	Sugar beet
3497	Sugar beet
3498	Sugar beet
3499	Sugar beet
3500	Sugar beet
3501	Sugar beet
3502	Sugar beet
3503	Sugar beet
3504	Sugar beet
3505	Sugar beet
3506	Sugar beet
3507	Sugar beet
3508	Sugar beet
3509	Sugar beet
3510	Sugar beet
3511	Sugar beet
3512	Sugar beet
3513	Sugar beet
3514	Sugar beet
3515	Sugar beet
3516	Sugar beet
3517	Sugar beet

3518	Sugar beet
3519	Sugar beet
3520	Sugar beet
3521	Sugar beet
3522	Sugar beet
3523	Sugar beet
3524	Sugar beet
3525	Sugar beet
3526	Sugar beet
3527	Sugar beet
3528	Sugar beet
3529	Sugar beet
3530	Sugar beet
3531	Sugar beet
3532	Sugar beet
3533	Sugar beet
3534	Sugar beet
3535	Sugar beet
3536	Sugar beet
3537	Sugar beet
3538	Sugar beet
3539	Sugar beet
3540	Sugar beet
3541	Sugar beet
3542	Sugar beet
3543	Sugar beet
3544	Sugar beet
3545	Sugar beet
3546	Sugar beet
3547	Sugar beet
3548	Sugar beet
3549	Sugar beet
3550	Sugar beet
3551	Sugar beet
3552	Sugar beet
3553	Sugar beet
3554	Sugar beet
3555	Sugar beet
3556	Sugar beet
3557	Sugar beet
3558	Sugar beet
3559	Sugar beet
3560	Sugar beet
3561	Sugar beet
3562	Sugar beet
3563	Sugar beet
3564	Sugar beet
3565	Sugar beet
3566	Sugar beet
3567	Sugar beet
3568	Sugar beet
3569	Sugar beet
3570	Sugar beet
3571	Sugar beet
3572	Sugar beet
3573	Sugar beet
3574	Sugar beet
3575	Sugar beet
3576	Sugar beet
3577	Sugar beet
3578	Sugar beet
3579	Sugar beet
3580	Sugar beet
3581	Sugar beet
3582	Sugar beet

3583	Sugar beet
3584	Sugar beet
3585	Sugar beet
3586	Sugar beet
3587	Sugar beet
3588	Sugar beet
3589	Sugar beet
3590	Sugar beet
3591	Sugar beet
3592	Sugar beet
3593	Sugar beet
3594	Sugar beet
3595	Sugar beet
3596	Sugar beet
3597	Sugar beet
3598	Sugar beet
3599	Sugar beet
3600	Sugar beet
3601	Sugar beet
3602	Sugar beet
3603	Sugar beet
3604	Sugar beet
3605	Sugar beet
3606	Sugar beet
3607	Sugar beet
3608	Sugar beet
3609	Sugar beet
3610	Sugar beet
3611	Sugar beet
3612	Maize
3613	Maize
3614	Maize
3615	Maize
3616	Maize
3617	Maize
3618	Maize
3619	Maize
3620	Maize
3621	Maize
3622	Maize
3623	Maize
3624	Maize
3625	Maize
3626	Maize
3627	Maize
3628	Maize
3629	Maize
3630	Maize
3631	Maize
3632	Maize
3633	Maize
3634	Maize
3635	Maize
3636	Maize
3637	Maize
3638	Maize
3639	Maize
3640	Maize
3641	Maize
3642	Maize
3643	Maize
3644	Maize
3645	Maize
3646	Maize
3647	Maize

3648	Maize
3649	Maize
3650	Maize
3651	Maize
3652	Maize
3653	Maize
3654	Maize
3655	Maize
3656	Maize
3657	Maize
3658	Maize
3659	Maize
3660	Maize
3661	Maize
3662	Maize
3663	Maize
3664	Maize
3665	Maize
3666	Maize
3667	Maize
3668	Maize
3669	Maize
3670	Maize
3671	Maize
3672	Maize
3673	Maize
3674	Maize
3675	Maize
3676	Maize
3677	Maize
3678	Maize
3679	Maize
3680	Maize
3681	Maize
3682	Maize
3683	Maize
3684	Maize
3685	Maize
3686	Maize
3687	Maize
3688	Maize
3689	Maize
3690	Maize
3691	Maize
3692	Maize
3693	Maize
3694	Maize
3695	Maize
3696	Maize
3697	Maize
3698	Maize
3699	Maize
3700	Maize
3701	Maize
3702	Maize
3703	Maize
3704	Maize
3705	Maize
3706	Maize
3707	Maize
3708	Maize
3709	Maize
3710	Maize
3711	Maize
3712	Maize

3713	Maize
3714	Maize
3715	Maize
3716	Maize
3717	Maize
3718	Maize
3719	Maize
3720	Maize
3721	Maize
3722	Maize
3723	Maize
3724	Maize
3725	Maize
3726	Maize
3727	Maize
3728	Maize
3729	Maize
3730	Maize
3731	Maize
3732	Maize
3733	Maize
3734	Maize
3735	Maize
3736	Maize
3737	Maize
3738	Maize
3739	Maize
3740	Maize
3741	Maize
3742	Maize
3743	Maize
3744	Maize
3745	Maize
3746	Maize
3747	Maize
3748	Maize
3749	Maize
3750	Maize
3751	Maize
3752	Maize
3753	Maize
3754	Maize
3755	Maize
3756	Maize
3757	Maize
3758	Maize
3759	Maize
3760	Maize
3761	Maize
3762	Maize
3763	Maize
3764	Maize
3765	Maize
3766	Maize
3767	Maize
3768	Maize
3769	Maize
3770	Maize
3771	Maize
3772	Maize
3773	Maize
3774	Maize
3775	Maize
3776	Maize
3777	Maize

3778	Maize
3779	Maize
3780	Maize
3781	Maize
3782	Maize
3783	Maize
3784	Maize
3785	Maize
3786	Maize
3787	Maize
3788	Maize
3789	Maize
3790	Maize
3791	Maize
3792	Maize
3793	Maize
3794	Maize
3795	Maize
3796	Maize
3797	Maize
3798	Maize
3799	Maize
3800	Maize
3801	Maize
3802	Maize
3803	Maize
3804	Maize
3805	Maize
3806	Maize
3807	Maize
3808	Maize
3809	Maize
3810	Maize
3811	Maize
3812	Maize
3813	Maize
3814	Maize
3815	Maize
3816	Maize
3817	Maize
3818	Maize
3819	Maize
3820	Maize
3821	Maize
3822	Maize
3823	Maize
3824	Maize
3825	Maize
3826	Maize
3827	Maize
3828	Maize
3829	Maize
3830	Maize
3831	Maize
3832	Maize
3833	Black-grass
3834	Black-grass
3835	Black-grass
3836	Black-grass
3837	Black-grass
3838	Black-grass
3839	Black-grass
3840	Black-grass
3841	Black-grass
3842	Black-grass

3843	Black-grass
3844	Black-grass
3845	Black-grass
3846	Black-grass
3847	Black-grass
3848	Black-grass
3849	Black-grass
3850	Black-grass
3851	Black-grass
3852	Black-grass
3853	Black-grass
3854	Black-grass
3855	Black-grass
3856	Black-grass
3857	Black-grass
3858	Black-grass
3859	Black-grass
3860	Black-grass
3861	Black-grass
3862	Black-grass
3863	Black-grass
3864	Black-grass
3865	Black-grass
3866	Black-grass
3867	Black-grass
3868	Black-grass
3869	Black-grass
3870	Black-grass
3871	Black-grass
3872	Black-grass
3873	Black-grass
3874	Black-grass
3875	Black-grass
3876	Black-grass
3877	Black-grass
3878	Black-grass
3879	Black-grass
3880	Black-grass
3881	Black-grass
3882	Black-grass
3883	Black-grass
3884	Black-grass
3885	Black-grass
3886	Black-grass
3887	Black-grass
3888	Black-grass
3889	Black-grass
3890	Black-grass
3891	Black-grass
3892	Black-grass
3893	Black-grass
3894	Black-grass
3895	Black-grass
3896	Black-grass
3897	Black-grass
3898	Black-grass
3899	Black-grass
3900	Black-grass
3901	Black-grass
3902	Black-grass
3903	Black-grass
3904	Black-grass
3905	Black-grass
3906	Black-grass
3907	Black-grass

3908	Black-grass
3909	Black-grass
3910	Black-grass
3911	Black-grass
3912	Black-grass
3913	Black-grass
3914	Black-grass
3915	Black-grass
3916	Black-grass
3917	Black-grass
3918	Black-grass
3919	Black-grass
3920	Black-grass
3921	Black-grass
3922	Black-grass
3923	Black-grass
3924	Black-grass
3925	Black-grass
3926	Black-grass
3927	Black-grass
3928	Black-grass
3929	Black-grass
3930	Black-grass
3931	Black-grass
3932	Black-grass
3933	Black-grass
3934	Black-grass
3935	Black-grass
3936	Black-grass
3937	Black-grass
3938	Black-grass
3939	Black-grass
3940	Black-grass
3941	Black-grass
3942	Black-grass
3943	Black-grass
3944	Black-grass
3945	Black-grass
3946	Black-grass
3947	Black-grass
3948	Black-grass
3949	Black-grass
3950	Black-grass
3951	Black-grass
3952	Black-grass
3953	Black-grass
3954	Black-grass
3955	Black-grass
3956	Black-grass
3957	Black-grass
3958	Black-grass
3959	Black-grass
3960	Black-grass
3961	Black-grass
3962	Black-grass
3963	Black-grass
3964	Black-grass
3965	Black-grass
3966	Black-grass
3967	Black-grass
3968	Black-grass
3969	Black-grass
3970	Black-grass
3971	Black-grass
3972	Black-grass

3973	Black-grass
3974	Black-grass
3975	Black-grass
3976	Black-grass
3977	Black-grass
3978	Black-grass
3979	Black-grass
3980	Black-grass
3981	Black-grass
3982	Black-grass
3983	Black-grass
3984	Black-grass
3985	Black-grass
3986	Black-grass
3987	Black-grass
3988	Black-grass
3989	Black-grass
3990	Black-grass
3991	Black-grass
3992	Black-grass
3993	Black-grass
3994	Black-grass
3995	Black-grass
3996	Black-grass
3997	Black-grass
3998	Black-grass
3999	Black-grass
4000	Black-grass
4001	Black-grass
4002	Black-grass
4003	Black-grass
4004	Black-grass
4005	Black-grass
4006	Black-grass
4007	Black-grass
4008	Black-grass
4009	Black-grass
4010	Black-grass
4011	Black-grass
4012	Black-grass
4013	Black-grass
4014	Black-grass
4015	Black-grass
4016	Black-grass
4017	Black-grass
4018	Black-grass
4019	Black-grass
4020	Black-grass
4021	Black-grass
4022	Black-grass
4023	Black-grass
4024	Black-grass
4025	Black-grass
4026	Black-grass
4027	Black-grass
4028	Black-grass
4029	Black-grass
4030	Black-grass
4031	Black-grass
4032	Black-grass
4033	Black-grass
4034	Black-grass
4035	Black-grass
4036	Black-grass
4037	Black-grass

4038	Black-grass
4039	Black-grass
4040	Black-grass
4041	Black-grass
4042	Black-grass
4043	Black-grass
4044	Black-grass
4045	Black-grass
4046	Black-grass
4047	Black-grass
4048	Black-grass
4049	Black-grass
4050	Black-grass
4051	Black-grass
4052	Black-grass
4053	Black-grass
4054	Black-grass
4055	Black-grass
4056	Black-grass
4057	Black-grass
4058	Black-grass
4059	Black-grass
4060	Black-grass
4061	Black-grass
4062	Black-grass
4063	Black-grass
4064	Black-grass
4065	Black-grass
4066	Black-grass
4067	Black-grass
4068	Black-grass
4069	Black-grass
4070	Black-grass
4071	Black-grass
4072	Black-grass
4073	Black-grass
4074	Black-grass
4075	Black-grass
4076	Black-grass
4077	Black-grass
4078	Black-grass
4079	Black-grass
4080	Black-grass
4081	Black-grass
4082	Black-grass
4083	Black-grass
4084	Black-grass
4085	Black-grass
4086	Black-grass
4087	Black-grass
4088	Black-grass
4089	Black-grass
4090	Black-grass
4091	Black-grass
4092	Black-grass
4093	Black-grass
4094	Black-grass
4095	Black-grass
4096	Loose Silky-bent
4097	Loose Silky-bent
4098	Loose Silky-bent
4099	Loose Silky-bent
4100	Loose Silky-bent
4101	Loose Silky-bent
4102	Loose Silky-bent

4103	Loose Silky-bent
4104	Loose Silky-bent
4105	Loose Silky-bent
4106	Loose Silky-bent
4107	Loose Silky-bent
4108	Loose Silky-bent
4109	Loose Silky-bent
4110	Loose Silky-bent
4111	Loose Silky-bent
4112	Loose Silky-bent
4113	Loose Silky-bent
4114	Loose Silky-bent
4115	Loose Silky-bent
4116	Loose Silky-bent
4117	Loose Silky-bent
4118	Loose Silky-bent
4119	Loose Silky-bent
4120	Loose Silky-bent
4121	Loose Silky-bent
4122	Loose Silky-bent
4123	Loose Silky-bent
4124	Loose Silky-bent
4125	Loose Silky-bent
4126	Loose Silky-bent
4127	Loose Silky-bent
4128	Loose Silky-bent
4129	Loose Silky-bent
4130	Loose Silky-bent
4131	Loose Silky-bent
4132	Loose Silky-bent
4133	Loose Silky-bent
4134	Loose Silky-bent
4135	Loose Silky-bent
4136	Loose Silky-bent
4137	Loose Silky-bent
4138	Loose Silky-bent
4139	Loose Silky-bent
4140	Loose Silky-bent
4141	Loose Silky-bent
4142	Loose Silky-bent
4143	Loose Silky-bent
4144	Loose Silky-bent
4145	Loose Silky-bent
4146	Loose Silky-bent
4147	Loose Silky-bent
4148	Loose Silky-bent
4149	Loose Silky-bent
4150	Loose Silky-bent
4151	Loose Silky-bent
4152	Loose Silky-bent
4153	Loose Silky-bent
4154	Loose Silky-bent
4155	Loose Silky-bent
4156	Loose Silky-bent
4157	Loose Silky-bent
4158	Loose Silky-bent
4159	Loose Silky-bent
4160	Loose Silky-bent
4161	Loose Silky-bent
4162	Loose Silky-bent
4163	Loose Silky-bent
4164	Loose Silky-bent
4165	Loose Silky-bent
4166	Loose Silky-bent
4167	Loose Silky-bent

4168	Loose Silky-bent
4169	Loose Silky-bent
4170	Loose Silky-bent
4171	Loose Silky-bent
4172	Loose Silky-bent
4173	Loose Silky-bent
4174	Loose Silky-bent
4175	Loose Silky-bent
4176	Loose Silky-bent
4177	Loose Silky-bent
4178	Loose Silky-bent
4179	Loose Silky-bent
4180	Loose Silky-bent
4181	Loose Silky-bent
4182	Loose Silky-bent
4183	Loose Silky-bent
4184	Loose Silky-bent
4185	Loose Silky-bent
4186	Loose Silky-bent
4187	Loose Silky-bent
4188	Loose Silky-bent
4189	Loose Silky-bent
4190	Loose Silky-bent
4191	Loose Silky-bent
4192	Loose Silky-bent
4193	Loose Silky-bent
4194	Loose Silky-bent
4195	Loose Silky-bent
4196	Loose Silky-bent
4197	Loose Silky-bent
4198	Loose Silky-bent
4199	Loose Silky-bent
4200	Loose Silky-bent
4201	Loose Silky-bent
4202	Loose Silky-bent
4203	Loose Silky-bent
4204	Loose Silky-bent
4205	Loose Silky-bent
4206	Loose Silky-bent
4207	Loose Silky-bent
4208	Loose Silky-bent
4209	Loose Silky-bent
4210	Loose Silky-bent
4211	Loose Silky-bent
4212	Loose Silky-bent
4213	Loose Silky-bent
4214	Loose Silky-bent
4215	Loose Silky-bent
4216	Loose Silky-bent
4217	Loose Silky-bent
4218	Loose Silky-bent
4219	Loose Silky-bent
4220	Loose Silky-bent
4221	Loose Silky-bent
4222	Loose Silky-bent
4223	Loose Silky-bent
4224	Loose Silky-bent
4225	Loose Silky-bent
4226	Loose Silky-bent
4227	Loose Silky-bent
4228	Loose Silky-bent
4229	Loose Silky-bent
4230	Loose Silky-bent
4231	Loose Silky-bent
4232	Loose Silky-bent

4233	Loose Silky-bent
4234	Loose Silky-bent
4235	Loose Silky-bent
4236	Loose Silky-bent
4237	Loose Silky-bent
4238	Loose Silky-bent
4239	Loose Silky-bent
4240	Loose Silky-bent
4241	Loose Silky-bent
4242	Loose Silky-bent
4243	Loose Silky-bent
4244	Loose Silky-bent
4245	Loose Silky-bent
4246	Loose Silky-bent
4247	Loose Silky-bent
4248	Loose Silky-bent
4249	Loose Silky-bent
4250	Loose Silky-bent
4251	Loose Silky-bent
4252	Loose Silky-bent
4253	Loose Silky-bent
4254	Loose Silky-bent
4255	Loose Silky-bent
4256	Loose Silky-bent
4257	Loose Silky-bent
4258	Loose Silky-bent
4259	Loose Silky-bent
4260	Loose Silky-bent
4261	Loose Silky-bent
4262	Loose Silky-bent
4263	Loose Silky-bent
4264	Loose Silky-bent
4265	Loose Silky-bent
4266	Loose Silky-bent
4267	Loose Silky-bent
4268	Loose Silky-bent
4269	Loose Silky-bent
4270	Loose Silky-bent
4271	Loose Silky-bent
4272	Loose Silky-bent
4273	Loose Silky-bent
4274	Loose Silky-bent
4275	Loose Silky-bent
4276	Loose Silky-bent
4277	Loose Silky-bent
4278	Loose Silky-bent
4279	Loose Silky-bent
4280	Loose Silky-bent
4281	Loose Silky-bent
4282	Loose Silky-bent
4283	Loose Silky-bent
4284	Loose Silky-bent
4285	Loose Silky-bent
4286	Loose Silky-bent
4287	Loose Silky-bent
4288	Loose Silky-bent
4289	Loose Silky-bent
4290	Loose Silky-bent
4291	Loose Silky-bent
4292	Loose Silky-bent
4293	Loose Silky-bent
4294	Loose Silky-bent
4295	Loose Silky-bent
4296	Loose Silky-bent
4297	Loose Silky-bent

4298	Loose Silky-bent
4299	Loose Silky-bent
4300	Loose Silky-bent
4301	Loose Silky-bent
4302	Loose Silky-bent
4303	Loose Silky-bent
4304	Loose Silky-bent
4305	Loose Silky-bent
4306	Loose Silky-bent
4307	Loose Silky-bent
4308	Loose Silky-bent
4309	Loose Silky-bent
4310	Loose Silky-bent
4311	Loose Silky-bent
4312	Loose Silky-bent
4313	Loose Silky-bent
4314	Loose Silky-bent
4315	Loose Silky-bent
4316	Loose Silky-bent
4317	Loose Silky-bent
4318	Loose Silky-bent
4319	Loose Silky-bent
4320	Loose Silky-bent
4321	Loose Silky-bent
4322	Loose Silky-bent
4323	Loose Silky-bent
4324	Loose Silky-bent
4325	Loose Silky-bent
4326	Loose Silky-bent
4327	Loose Silky-bent
4328	Loose Silky-bent
4329	Loose Silky-bent
4330	Loose Silky-bent
4331	Loose Silky-bent
4332	Loose Silky-bent
4333	Loose Silky-bent
4334	Loose Silky-bent
4335	Loose Silky-bent
4336	Loose Silky-bent
4337	Loose Silky-bent
4338	Loose Silky-bent
4339	Loose Silky-bent
4340	Loose Silky-bent
4341	Loose Silky-bent
4342	Loose Silky-bent
4343	Loose Silky-bent
4344	Loose Silky-bent
4345	Loose Silky-bent
4346	Loose Silky-bent
4347	Loose Silky-bent
4348	Loose Silky-bent
4349	Loose Silky-bent
4350	Loose Silky-bent
4351	Loose Silky-bent
4352	Loose Silky-bent
4353	Loose Silky-bent
4354	Loose Silky-bent
4355	Loose Silky-bent
4356	Loose Silky-bent
4357	Loose Silky-bent
4358	Loose Silky-bent
4359	Loose Silky-bent
4360	Loose Silky-bent
4361	Loose Silky-bent
4362	Loose Silky-bent

4363	Loose Silky-bent
4364	Loose Silky-bent
4365	Loose Silky-bent
4366	Loose Silky-bent
4367	Loose Silky-bent
4368	Loose Silky-bent
4369	Loose Silky-bent
4370	Loose Silky-bent
4371	Loose Silky-bent
4372	Loose Silky-bent
4373	Loose Silky-bent
4374	Loose Silky-bent
4375	Loose Silky-bent
4376	Loose Silky-bent
4377	Loose Silky-bent
4378	Loose Silky-bent
4379	Loose Silky-bent
4380	Loose Silky-bent
4381	Loose Silky-bent
4382	Loose Silky-bent
4383	Loose Silky-bent
4384	Loose Silky-bent
4385	Loose Silky-bent
4386	Loose Silky-bent
4387	Loose Silky-bent
4388	Loose Silky-bent
4389	Loose Silky-bent
4390	Loose Silky-bent
4391	Loose Silky-bent
4392	Loose Silky-bent
4393	Loose Silky-bent
4394	Loose Silky-bent
4395	Loose Silky-bent
4396	Loose Silky-bent
4397	Loose Silky-bent
4398	Loose Silky-bent
4399	Loose Silky-bent
4400	Loose Silky-bent
4401	Loose Silky-bent
4402	Loose Silky-bent
4403	Loose Silky-bent
4404	Loose Silky-bent
4405	Loose Silky-bent
4406	Loose Silky-bent
4407	Loose Silky-bent
4408	Loose Silky-bent
4409	Loose Silky-bent
4410	Loose Silky-bent
4411	Loose Silky-bent
4412	Loose Silky-bent
4413	Loose Silky-bent
4414	Loose Silky-bent
4415	Loose Silky-bent
4416	Loose Silky-bent
4417	Loose Silky-bent
4418	Loose Silky-bent
4419	Loose Silky-bent
4420	Loose Silky-bent
4421	Loose Silky-bent
4422	Loose Silky-bent
4423	Loose Silky-bent
4424	Loose Silky-bent
4425	Loose Silky-bent
4426	Loose Silky-bent
4427	Loose Silky-bent

4428	Loose Silky-bent
4429	Loose Silky-bent
4430	Loose Silky-bent
4431	Loose Silky-bent
4432	Loose Silky-bent
4433	Loose Silky-bent
4434	Loose Silky-bent
4435	Loose Silky-bent
4436	Loose Silky-bent
4437	Loose Silky-bent
4438	Loose Silky-bent
4439	Loose Silky-bent
4440	Loose Silky-bent
4441	Loose Silky-bent
4442	Loose Silky-bent
4443	Loose Silky-bent
4444	Loose Silky-bent
4445	Loose Silky-bent
4446	Loose Silky-bent
4447	Loose Silky-bent
4448	Loose Silky-bent
4449	Loose Silky-bent
4450	Loose Silky-bent
4451	Loose Silky-bent
4452	Loose Silky-bent
4453	Loose Silky-bent
4454	Loose Silky-bent
4455	Loose Silky-bent
4456	Loose Silky-bent
4457	Loose Silky-bent
4458	Loose Silky-bent
4459	Loose Silky-bent
4460	Loose Silky-bent
4461	Loose Silky-bent
4462	Loose Silky-bent
4463	Loose Silky-bent
4464	Loose Silky-bent
4465	Loose Silky-bent
4466	Loose Silky-bent
4467	Loose Silky-bent
4468	Loose Silky-bent
4469	Loose Silky-bent
4470	Loose Silky-bent
4471	Loose Silky-bent
4472	Loose Silky-bent
4473	Loose Silky-bent
4474	Loose Silky-bent
4475	Loose Silky-bent
4476	Loose Silky-bent
4477	Loose Silky-bent
4478	Loose Silky-bent
4479	Loose Silky-bent
4480	Loose Silky-bent
4481	Loose Silky-bent
4482	Loose Silky-bent
4483	Loose Silky-bent
4484	Loose Silky-bent
4485	Loose Silky-bent
4486	Loose Silky-bent
4487	Loose Silky-bent
4488	Loose Silky-bent
4489	Loose Silky-bent
4490	Loose Silky-bent
4491	Loose Silky-bent
4492	Loose Silky-bent

4493	Loose Silky-bent
4494	Loose Silky-bent
4495	Loose Silky-bent
4496	Loose Silky-bent
4497	Loose Silky-bent
4498	Loose Silky-bent
4499	Loose Silky-bent
4500	Loose Silky-bent
4501	Loose Silky-bent
4502	Loose Silky-bent
4503	Loose Silky-bent
4504	Loose Silky-bent
4505	Loose Silky-bent
4506	Loose Silky-bent
4507	Loose Silky-bent
4508	Loose Silky-bent
4509	Loose Silky-bent
4510	Loose Silky-bent
4511	Loose Silky-bent
4512	Loose Silky-bent
4513	Loose Silky-bent
4514	Loose Silky-bent
4515	Loose Silky-bent
4516	Loose Silky-bent
4517	Loose Silky-bent
4518	Loose Silky-bent
4519	Loose Silky-bent
4520	Loose Silky-bent
4521	Loose Silky-bent
4522	Loose Silky-bent
4523	Loose Silky-bent
4524	Loose Silky-bent
4525	Loose Silky-bent
4526	Loose Silky-bent
4527	Loose Silky-bent
4528	Loose Silky-bent
4529	Loose Silky-bent
4530	Loose Silky-bent
4531	Loose Silky-bent
4532	Loose Silky-bent
4533	Loose Silky-bent
4534	Loose Silky-bent
4535	Loose Silky-bent
4536	Loose Silky-bent
4537	Loose Silky-bent
4538	Loose Silky-bent
4539	Loose Silky-bent
4540	Loose Silky-bent
4541	Loose Silky-bent
4542	Loose Silky-bent
4543	Loose Silky-bent
4544	Loose Silky-bent
4545	Loose Silky-bent
4546	Loose Silky-bent
4547	Loose Silky-bent
4548	Loose Silky-bent
4549	Loose Silky-bent
4550	Loose Silky-bent
4551	Loose Silky-bent
4552	Loose Silky-bent
4553	Loose Silky-bent
4554	Loose Silky-bent
4555	Loose Silky-bent
4556	Loose Silky-bent
4557	Loose Silky-bent

4558	Loose Silky-bent
4559	Loose Silky-bent
4560	Loose Silky-bent
4561	Loose Silky-bent
4562	Loose Silky-bent
4563	Loose Silky-bent
4564	Loose Silky-bent
4565	Loose Silky-bent
4566	Loose Silky-bent
4567	Loose Silky-bent
4568	Loose Silky-bent
4569	Loose Silky-bent
4570	Loose Silky-bent
4571	Loose Silky-bent
4572	Loose Silky-bent
4573	Loose Silky-bent
4574	Loose Silky-bent
4575	Loose Silky-bent
4576	Loose Silky-bent
4577	Loose Silky-bent
4578	Loose Silky-bent
4579	Loose Silky-bent
4580	Loose Silky-bent
4581	Loose Silky-bent
4582	Loose Silky-bent
4583	Loose Silky-bent
4584	Loose Silky-bent
4585	Loose Silky-bent
4586	Loose Silky-bent
4587	Loose Silky-bent
4588	Loose Silky-bent
4589	Loose Silky-bent
4590	Loose Silky-bent
4591	Loose Silky-bent
4592	Loose Silky-bent
4593	Loose Silky-bent
4594	Loose Silky-bent
4595	Loose Silky-bent
4596	Loose Silky-bent
4597	Loose Silky-bent
4598	Loose Silky-bent
4599	Loose Silky-bent
4600	Loose Silky-bent
4601	Loose Silky-bent
4602	Loose Silky-bent
4603	Loose Silky-bent
4604	Loose Silky-bent
4605	Loose Silky-bent
4606	Loose Silky-bent
4607	Loose Silky-bent
4608	Loose Silky-bent
4609	Loose Silky-bent
4610	Loose Silky-bent
4611	Loose Silky-bent
4612	Loose Silky-bent
4613	Loose Silky-bent
4614	Loose Silky-bent
4615	Loose Silky-bent
4616	Loose Silky-bent
4617	Loose Silky-bent
4618	Loose Silky-bent
4619	Loose Silky-bent
4620	Loose Silky-bent
4621	Loose Silky-bent
4622	Loose Silky-bent

4623	Loose Silky-bent
4624	Loose Silky-bent
4625	Loose Silky-bent
4626	Loose Silky-bent
4627	Loose Silky-bent
4628	Loose Silky-bent
4629	Loose Silky-bent
4630	Loose Silky-bent
4631	Loose Silky-bent
4632	Loose Silky-bent
4633	Loose Silky-bent
4634	Loose Silky-bent
4635	Loose Silky-bent
4636	Loose Silky-bent
4637	Loose Silky-bent
4638	Loose Silky-bent
4639	Loose Silky-bent
4640	Loose Silky-bent
4641	Loose Silky-bent
4642	Loose Silky-bent
4643	Loose Silky-bent
4644	Loose Silky-bent
4645	Loose Silky-bent
4646	Loose Silky-bent
4647	Loose Silky-bent
4648	Loose Silky-bent
4649	Loose Silky-bent
4650	Loose Silky-bent
4651	Loose Silky-bent
4652	Loose Silky-bent
4653	Loose Silky-bent
4654	Loose Silky-bent
4655	Loose Silky-bent
4656	Loose Silky-bent
4657	Loose Silky-bent
4658	Loose Silky-bent
4659	Loose Silky-bent
4660	Loose Silky-bent
4661	Loose Silky-bent
4662	Loose Silky-bent
4663	Loose Silky-bent
4664	Loose Silky-bent
4665	Loose Silky-bent
4666	Loose Silky-bent
4667	Loose Silky-bent
4668	Loose Silky-bent
4669	Loose Silky-bent
4670	Loose Silky-bent
4671	Loose Silky-bent
4672	Loose Silky-bent
4673	Loose Silky-bent
4674	Loose Silky-bent
4675	Loose Silky-bent
4676	Loose Silky-bent
4677	Loose Silky-bent
4678	Loose Silky-bent
4679	Loose Silky-bent
4680	Loose Silky-bent
4681	Loose Silky-bent
4682	Loose Silky-bent
4683	Loose Silky-bent
4684	Loose Silky-bent
4685	Loose Silky-bent
4686	Loose Silky-bent
4687	Loose Silky-bent

4688	Loose Silky-bent
4689	Loose Silky-bent
4690	Loose Silky-bent
4691	Loose Silky-bent
4692	Loose Silky-bent
4693	Loose Silky-bent
4694	Loose Silky-bent
4695	Loose Silky-bent
4696	Loose Silky-bent
4697	Loose Silky-bent
4698	Loose Silky-bent
4699	Loose Silky-bent
4700	Loose Silky-bent
4701	Loose Silky-bent
4702	Loose Silky-bent
4703	Loose Silky-bent
4704	Loose Silky-bent
4705	Loose Silky-bent
4706	Loose Silky-bent
4707	Loose Silky-bent
4708	Loose Silky-bent
4709	Loose Silky-bent
4710	Loose Silky-bent
4711	Loose Silky-bent
4712	Loose Silky-bent
4713	Loose Silky-bent
4714	Loose Silky-bent
4715	Loose Silky-bent
4716	Loose Silky-bent
4717	Loose Silky-bent
4718	Loose Silky-bent
4719	Loose Silky-bent
4720	Loose Silky-bent
4721	Loose Silky-bent
4722	Loose Silky-bent
4723	Loose Silky-bent
4724	Loose Silky-bent
4725	Loose Silky-bent
4726	Loose Silky-bent
4727	Loose Silky-bent
4728	Loose Silky-bent
4729	Loose Silky-bent
4730	Loose Silky-bent
4731	Loose Silky-bent
4732	Loose Silky-bent
4733	Loose Silky-bent
4734	Loose Silky-bent
4735	Loose Silky-bent
4736	Loose Silky-bent
4737	Loose Silky-bent
4738	Loose Silky-bent
4739	Loose Silky-bent
4740	Loose Silky-bent
4741	Loose Silky-bent
4742	Loose Silky-bent
4743	Loose Silky-bent
4744	Loose Silky-bent
4745	Loose Silky-bent
4746	Loose Silky-bent
4747	Loose Silky-bent
4748	Loose Silky-bent
4749	Loose Silky-bent

```
In [6]: X = Images
        y = Labels
```

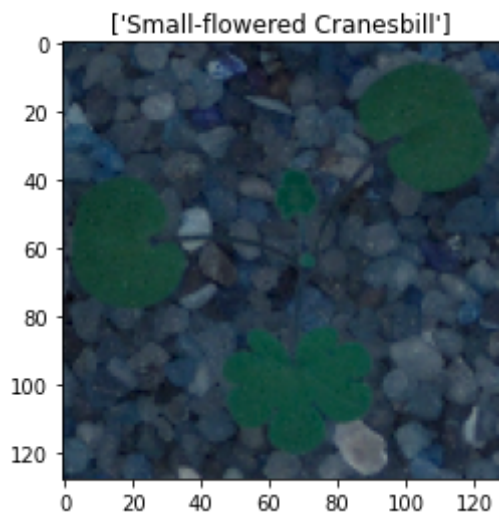
```
In [7]: y.value_counts()
```

```
Out[7]: Label
Loose Silky-bent          654
Common Chickweed          611
Scentless Mayweed         516
Small-flowered Cranesbill 496
Fat Hen                   475
Charlock                  390
Sugar beet                385
Cleavers                  287
Black-grass               263
Shepherds Purse           231
Maize                     221
Common wheat              221
dtype: int64
```

```
In [8]: y1 = y.values
```

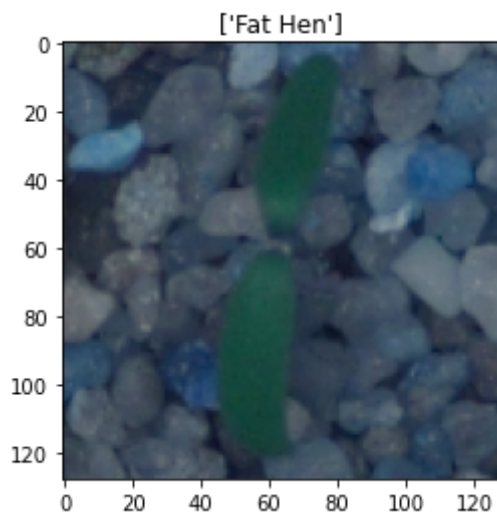
```
In [9]: i = 1
        img = X[i]
        plt.imshow(img, cmap="gray")
        plt.title(y1[i])
```

```
Out[9]: Text(0.5, 1.0, "['Small-flowered Cranesbill']")
```



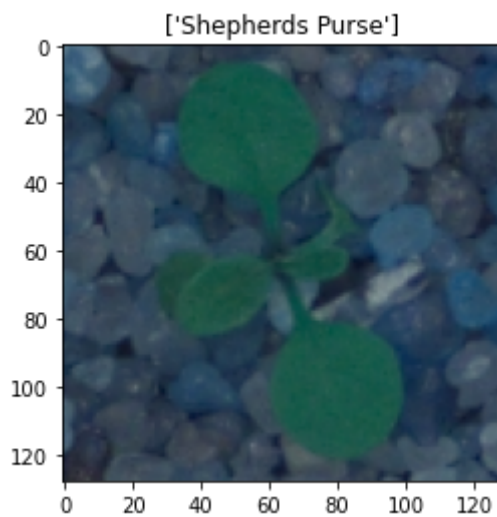
```
In [10]: i = 496
          img = X[i]
          plt.imshow(img, cmap="gray")
          plt.title(y1[i])
```

```
Out[10]: Text(0.5, 1.0, "['Fat Hen']")
```



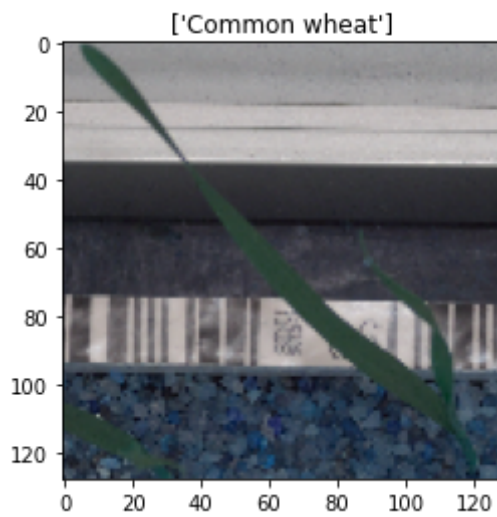
```
In [11]: i = 971  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[11]: Text(0.5, 1.0, "['Shepherds Purse']")
```



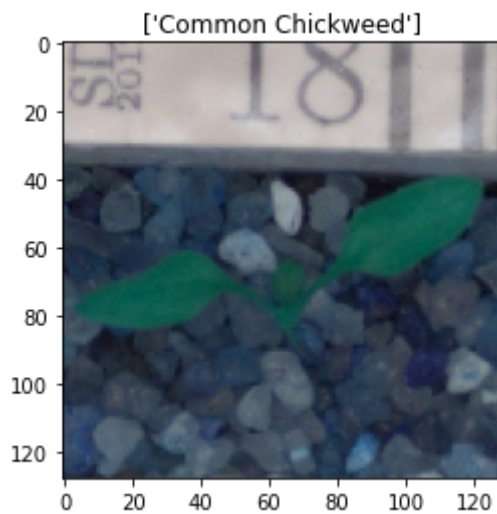
```
In [12]: i = 1202  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[12]: Text(0.5, 1.0, "['Common wheat']")
```



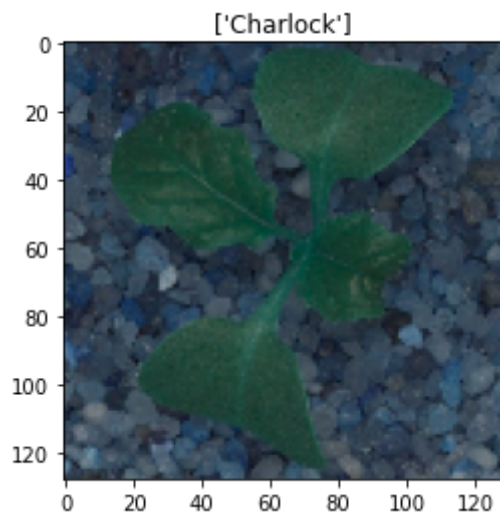
```
In [13]: i = 1423  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[13]: Text(0.5, 1.0, "['Common Chickweed']")
```



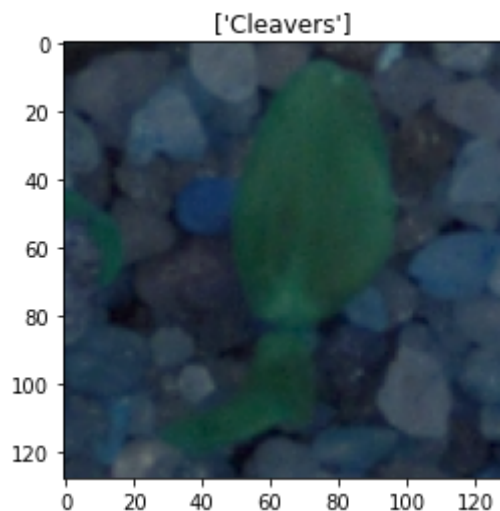
```
In [14]: i = 2034  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[14]: Text(0.5, 1.0, "['Charlock']")
```



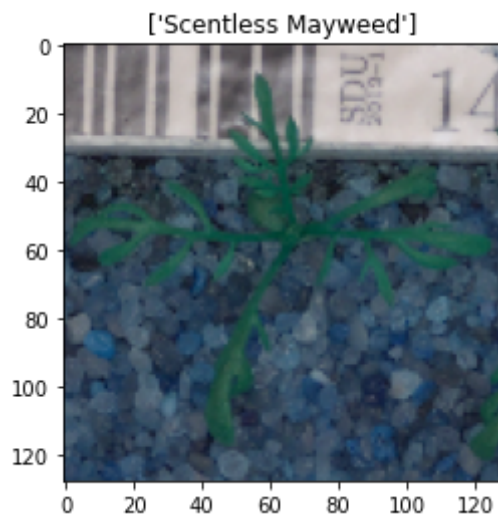
```
In [15]: i = 2424  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[15]: Text(0.5, 1.0, "['Cleavers']")
```



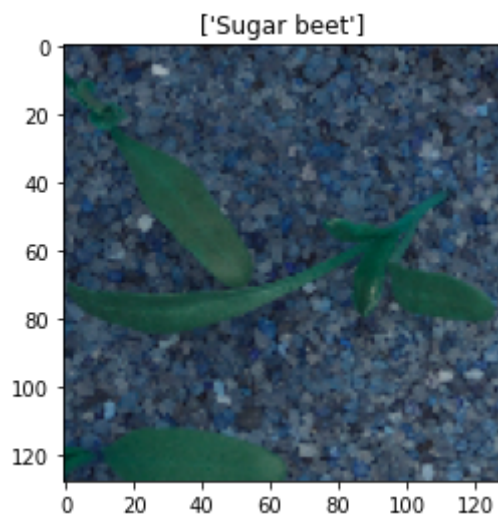
```
In [16]: i = 2711  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[16]: Text(0.5, 1.0, "['Scentless Mayweed']")
```



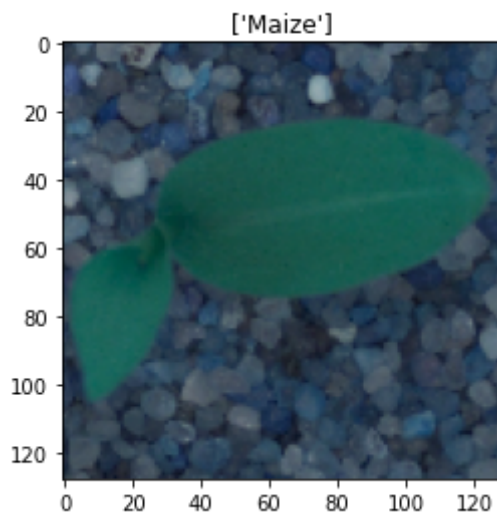
```
In [17]: i = 3227  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[17]: Text(0.5, 1.0, "['Sugar beet']")
```



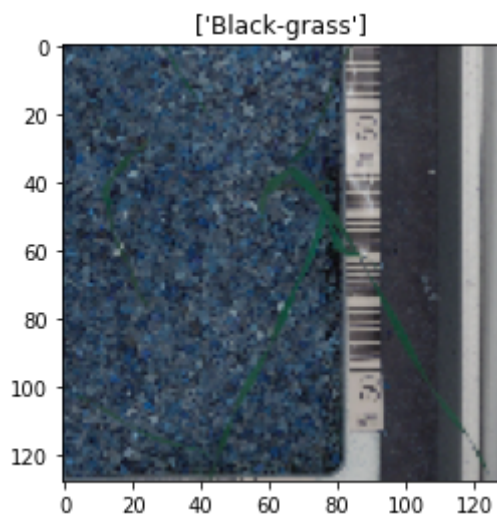
```
In [18]: i = 3612  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[18]: Text(0.5, 1.0, "['Maize']")
```

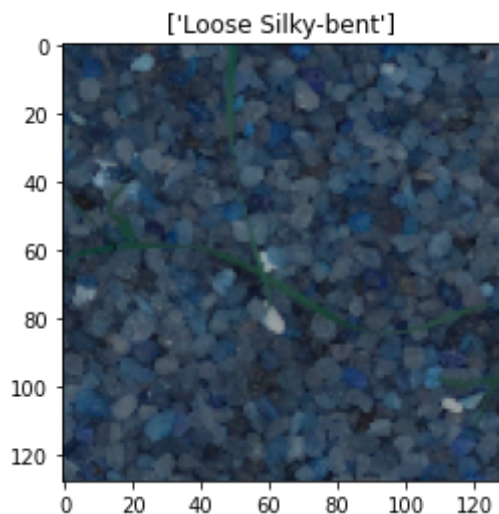
```
In [19]: i = 3833  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[19]: Text(0.5, 1.0, "['Black-grass']")
```



```
In [20]: i = 4096  
img = X[i]  
plt.imshow(img, cmap="gray")  
plt.title(y1[i])
```

```
Out[20]: Text(0.5, 1.0, "['Loose Silky-bent']")
```

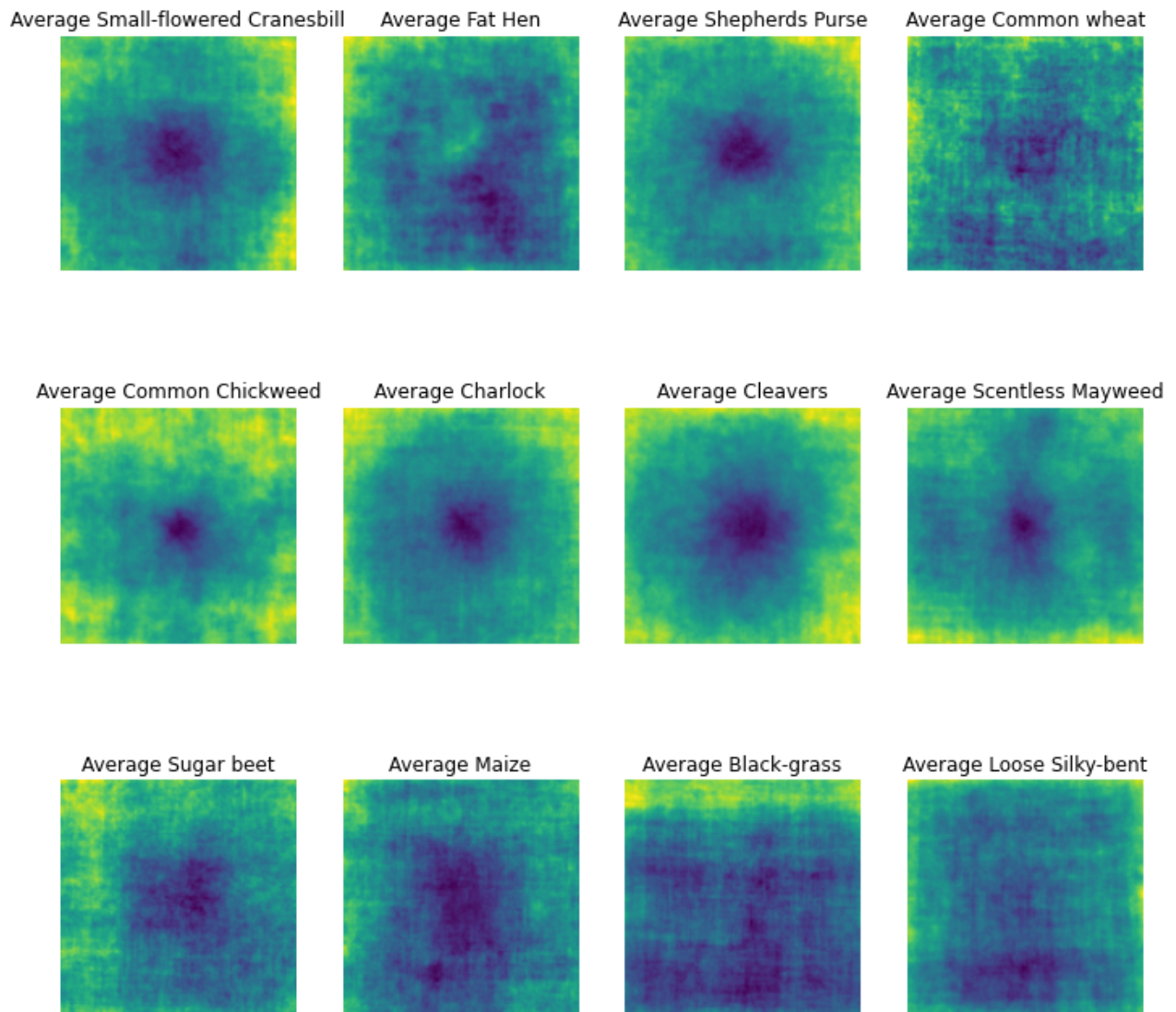


EDA

```
In [64]: def find_mean_img(full_mat):
    mean_img = np.mean(full_mat, axis=0)
    mean_img = mean_img.reshape((150, 150))
    return mean_img

CATEGORIES = Labels["Label"].unique()
d = {i: [] for i in CATEGORIES}

for i in Labels.index:
    gray = cv2.cvtColor(Images[i], cv2.COLOR_BGR2GRAY)
    gray = cv2.resize(gray, (150, 150))
    d[Labels["Label"][i]].append(gray)
l = []
for i in d.keys():
    l.append(find_mean_img(d[i]))
plt.subplots(figsize=(12, 12))
for i in range(len(l)):
    plt.subplot(3, 4, i + 1, title="Average " + list(d.keys())[i])
    plt.imshow(l[i])
    plt.axis("off")
```



Preprocessing

Normalize

```
In [33]: # Normalize the data
X = X.astype("float32") / 255.0
```

Split Data

```
In [34]: # Splitting data into training and test set:
X_train, X_test, y_train, y_test = train_test_split(
    X, y, test_size=0.2, random_state=1, stratify=y
)
print(X_train.shape, X_test.shape)
print(y_train.shape, y_test.shape)

(3800, 128, 128, 3) (950, 128, 128, 3)
(3800, 1) (950, 1)
```

Encoding

```
In [35]: from sklearn.preprocessing import LabelBinarizer

enc = LabelBinarizer()
y_train = enc.fit_transform(y_train)
y_test = enc.fit_transform(y_test)
```

```
In [36]: print(X_train.shape, X_test.shape)
print(y_train.shape, y_test.shape)

(3800, 128, 128, 3) (950, 128, 128, 3)
(3800, 12) (950, 12)
```

Model Building

```
In [37]: input_shape = (128, 128, 3)
```

```
In [38]: num_classes = 12
```

```
In [39]: model = Sequential()
```

```
In [40]: model.add(
    Conv2D(
        32,
        kernel_size=(5, 5),
        strides=(1, 1),
        activation="relu",
        input_shape=input_shape,
    )
)
```

```
In [41]: model.add(MaxPooling2D(pool_size=(2, 2), strides=(2, 2)))
```

```
In [42]: model.add(Conv2D(64, (5, 5), activation="relu"))
```

```
In [43]: model.add(MaxPooling2D(pool_size=(2, 2)))
```

```
In [44]: model.add(Flatten())
```

```
In [45]: model.add(Dense(1000, activation="relu"))
```

```
In [46]: model.add(Dense(num_classes, activation="softmax"))
```

```
In [47]: model.compile(
    loss=keras.losses.categorical_crossentropy,
    optimizer=Adam(lr=0.01),
    metrics=["accuracy"],
)
```

```
In [48]: model.summary()
```

Model: "sequential"

Layer (type)	Output Shape	Param #
conv2d (Conv2D)	(None, 124, 124, 32)	2432
max_pooling2d (MaxPooling2D)	(None, 62, 62, 32)	0
conv2d_1 (Conv2D)	(None, 58, 58, 64)	51264
max_pooling2d_1 (MaxPooling2D)	(None, 29, 29, 64)	0
flatten (Flatten)	(None, 53824)	0
dense (Dense)	(None, 1000)	53825000
dense_1 (Dense)	(None, 12)	12012
Total params: 53,890,708		
Trainable params: 53,890,708		
Non-trainable params: 0		

```
In [49]: # fitting the model
hist_mod = model.fit(X_train, y_train, batch_size=32, epochs=11, validation_spli
```

```
Epoch 1/11
95/95 [=====] - 76s 793ms/step - loss: 13.0160 - accuracy: 0.1151 - val_loss: 2.3949 - val_accuracy: 0.1684
Epoch 2/11
95/95 [=====] - 76s 797ms/step - loss: 2.4274 - accuracy: 0.1240 - val_loss: 2.3955 - val_accuracy: 0.1684
Epoch 3/11
95/95 [=====] - 75s 793ms/step - loss: 2.4268 - accuracy: 0.1224 - val_loss: 2.3990 - val_accuracy: 0.1684
Epoch 4/11
95/95 [=====] - 76s 800ms/step - loss: 2.4268 - accuracy: 0.1352 - val_loss: 2.4042 - val_accuracy: 0.1408
Epoch 5/11
95/95 [=====] - 75s 792ms/step - loss: 2.4257 - accuracy: 0.1243 - val_loss: 2.3977 - val_accuracy: 0.1684
Epoch 6/11
95/95 [=====] - 74s 784ms/step - loss: 2.4257 - accuracy: 0.1293 - val_loss: 2.3969 - val_accuracy: 0.1684
Epoch 7/11
95/95 [=====] - 75s 788ms/step - loss: 2.4243 - accuracy: 0.1253 - val_loss: 2.3971 - val_accuracy: 0.1408
```

```

Epoch 8/11
95/95 [=====] - 75s 791ms/step - loss: 2.4256 - accurac
y: 0.1276 - val_loss: 2.4001 - val_accuracy: 0.1408
Epoch 9/11
95/95 [=====] - 76s 796ms/step - loss: 2.4250 - accurac
y: 0.1270 - val_loss: 2.3985 - val_accuracy: 0.1684
Epoch 10/11
95/95 [=====] - 73s 767ms/step - loss: 2.4244 - accurac
y: 0.1211 - val_loss: 2.3973 - val_accuracy: 0.1684
Epoch 11/11
95/95 [=====] - 75s 794ms/step - loss: 2.4239 - accurac
y: 0.1299 - val_loss: 2.3934 - val_accuracy: 0.1684

```

- Started with a simple model
- Very low accuracy

```

In [50]: model2 = Sequential()
model2.add(
    Conv2D(
        32,
        kernel_size=(5, 5),
        padding="Same",
        strides=(1, 1),
        activation="relu",
        input_shape=input_shape,
    )
)
model2.add(MaxPooling2D(pool_size=(2, 2), strides=(2, 2)))
model2.add(Conv2D(64, (5, 5), padding="Same", activation="relu"))
model2.add(MaxPooling2D(pool_size=(2, 2)))
model2.add(Flatten())
model2.add(Dense(1000, activation="relu"))
model2.add(Dense(num_classes, activation="softmax"))
model2.compile(
    loss=keras.losses.categorical_crossentropy,
    optimizer=Adam(lr=0.01),
    metrics=["accuracy"],
)

```

```

In [51]: model2.summary()

```

Model: "sequential_1"

Layer (type)	Output Shape	Param #
=====		
conv2d_2 (Conv2D)	(None, 128, 128, 32)	2432
max_pooling2d_2 (MaxPooling 2D)	(None, 64, 64, 32)	0
conv2d_3 (Conv2D)	(None, 64, 64, 64)	51264
max_pooling2d_3 (MaxPooling 2D)	(None, 32, 32, 64)	0
flatten_1 (Flatten)	(None, 65536)	0
dense_2 (Dense)	(None, 1000)	65537000

dense_3 (Dense) (None, 12) 12012

```
=====
Total params: 65,602,708
Trainable params: 65,602,708
Non-trainable params: 0
=====
```

```
In [52]: # fitting the model
hist_mod2 = model2.fit(X_train, y_train, batch_size=32, epochs=11, validation_sp
```

```
Epoch 1/11
95/95 [=====] - 91s 952ms/step - loss: 9.0114 - accurac
y: 0.1220 - val_loss: 2.4008 - val_accuracy: 0.1408
Epoch 2/11
95/95 [=====] - 92s 964ms/step - loss: 2.4280 - accurac
y: 0.1243 - val_loss: 2.3945 - val_accuracy: 0.1684
Epoch 3/11
95/95 [=====] - 91s 954ms/step - loss: 2.4268 - accurac
y: 0.1194 - val_loss: 2.3983 - val_accuracy: 0.1684
Epoch 4/11
95/95 [=====] - 90s 946ms/step - loss: 2.4260 - accurac
y: 0.1217 - val_loss: 2.4050 - val_accuracy: 0.1684
Epoch 5/11
95/95 [=====] - 91s 956ms/step - loss: 2.4267 - accurac
y: 0.1214 - val_loss: 2.3988 - val_accuracy: 0.1684
Epoch 6/11
95/95 [=====] - 90s 948ms/step - loss: 2.4252 - accurac
y: 0.1257 - val_loss: 2.3998 - val_accuracy: 0.1684
Epoch 7/11
95/95 [=====] - 90s 953ms/step - loss: 2.4263 - accurac
y: 0.1224 - val_loss: 2.3957 - val_accuracy: 0.1684
Epoch 8/11
95/95 [=====] - 91s 964ms/step - loss: 2.4247 - accurac
y: 0.1299 - val_loss: 2.3923 - val_accuracy: 0.1684
Epoch 9/11
95/95 [=====] - 91s 956ms/step - loss: 2.4237 - accurac
y: 0.1283 - val_loss: 2.3971 - val_accuracy: 0.1684
Epoch 10/11
95/95 [=====] - 90s 944ms/step - loss: 2.4246 - accurac
y: 0.1257 - val_loss: 2.4009 - val_accuracy: 0.1684
Epoch 11/11
95/95 [=====] - 91s 959ms/step - loss: 2.4253 - accurac
y: 0.1240 - val_loss: 2.4005 - val_accuracy: 0.1408
```

- Added padding to the model, but accuracy didn't really improve.

```
In [53]: model3 = Sequential()
#
model3.add(
    Conv2D(
        filters=64,
        kernel_size=(5, 5),
        padding="Same",
        activation="relu",
        input_shape=input_shape,
    )
)
model3.add(MaxPool2D(pool_size=(2, 2)))
model3.add(Dropout(0.25))
```

```

#
model3.add(Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="relu"))
model3.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model3.add(Dropout(0.25))
#
model3.add(Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="relu"))
model3.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model3.add(Dropout(0.3))
#
model3.add(Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="relu"))
model3.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model3.add(Dropout(0.3))

#
model3.add(Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="relu"))
model3.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model3.add(Dropout(0.3))

#
model3.add(Flatten())
model3.add(Dense(1024, activation="relu"))
model3.add(Dropout(0.5))
model3.add(Dense(12, activation="softmax"))
optimizer = Adam(lr=0.001, beta_1=0.9, beta_2=0.999)
model3.compile(
    optimizer=optimizer, loss="categorical_crossentropy", metrics=["accuracy"]
)

```

In [54]: `model3.summary()`

Model: "sequential_2"

Layer (type)	Output Shape	Param #
=====		
conv2d_4 (Conv2D)	(None, 128, 128, 64)	4864
max_pooling2d_4 (MaxPooling2D)	(None, 64, 64, 64)	0
dropout (Dropout)	(None, 64, 64, 64)	0
conv2d_5 (Conv2D)	(None, 64, 64, 128)	73856
max_pooling2d_5 (MaxPooling2D)	(None, 32, 32, 128)	0
dropout_1 (Dropout)	(None, 32, 32, 128)	0
conv2d_6 (Conv2D)	(None, 32, 32, 128)	147584
max_pooling2d_6 (MaxPooling2D)	(None, 16, 16, 128)	0
dropout_2 (Dropout)	(None, 16, 16, 128)	0
conv2d_7 (Conv2D)	(None, 16, 16, 128)	147584
max_pooling2d_7 (MaxPooling2D)	(None, 8, 8, 128)	0
dropout_3 (Dropout)	(None, 8, 8, 128)	0

conv2d_8 (Conv2D)	(None, 8, 8, 128)	147584
max_pooling2d_8 (MaxPooling 2D)	(None, 4, 4, 128)	0
dropout_4 (Dropout)	(None, 4, 4, 128)	0
flatten_2 (Flatten)	(None, 2048)	0
dense_4 (Dense)	(None, 1024)	2098176
dropout_5 (Dropout)	(None, 1024)	0
dense_5 (Dense)	(None, 12)	12300

```

=====
Total params: 2,631,948
Trainable params: 2,631,948
Non-trainable params: 0

```

```

In [55]: # fitting the model
hist_mod3 = model3.fit(X_train, y_train, batch_size=32, epochs=11, validation_sp

```

```

Epoch 1/11
95/95 [=====] - 112s 1s/step - loss: 2.4450 - accuracy:
0.1207 - val_loss: 2.4173 - val_accuracy: 0.1408
Epoch 2/11
95/95 [=====] - 110s 1s/step - loss: 2.2246 - accuracy:
0.2247 - val_loss: 1.7279 - val_accuracy: 0.4211
Epoch 3/11
95/95 [=====] - 111s 1s/step - loss: 1.7120 - accuracy:
0.3816 - val_loss: 1.4232 - val_accuracy: 0.5066
Epoch 4/11
95/95 [=====] - 111s 1s/step - loss: 1.4677 - accuracy:
0.4714 - val_loss: 1.2838 - val_accuracy: 0.5763
Epoch 5/11
95/95 [=====] - 109s 1s/step - loss: 1.2446 - accuracy:
0.5602 - val_loss: 1.1157 - val_accuracy: 0.6276
Epoch 6/11
95/95 [=====] - 112s 1s/step - loss: 1.0918 - accuracy:
0.6211 - val_loss: 1.0203 - val_accuracy: 0.6579
Epoch 7/11
95/95 [=====] - 110s 1s/step - loss: 0.9762 - accuracy:
0.6582 - val_loss: 2.0320 - val_accuracy: 0.3197
Epoch 8/11
95/95 [=====] - 111s 1s/step - loss: 0.9198 - accuracy:
0.6780 - val_loss: 0.8583 - val_accuracy: 0.7132
Epoch 9/11
95/95 [=====] - 109s 1s/step - loss: 0.8320 - accuracy:
0.7145 - val_loss: 0.9029 - val_accuracy: 0.6934
Epoch 10/11
95/95 [=====] - 110s 1s/step - loss: 0.7608 - accuracy:
0.7365 - val_loss: 0.6858 - val_accuracy: 0.7803
Epoch 11/11
95/95 [=====] - 111s 1s/step - loss: 0.6871 - accuracy:
0.7513 - val_loss: 0.6883 - val_accuracy: 0.7658

```

```

In [56]: model3.evaluate(X_test, y_test)

30/30 [=====] - 8s 257ms/step - loss: 0.7707 - accurac
y: 0.7389

```

Out[56]: [0.77070152759552, 0.7389473915100098]

- Created a bigger model and with dropout
- Accuracy is a lot better, but I think I can improve it.
- Going to change activation function and play with dropout percentage for next model.

```
In [57]: model4 = Sequential()
#

model4.add(
    Conv2D(
        filters=64,
        kernel_size=(5, 5),
        padding="Same",
        activation="leaky_relu",
        input_shape=input_shape,
    )
)
model4.add(MaxPool2D(pool_size=(2, 2)))
# model4.add(Dropout(0.5))
#
model4.add(
    Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="leaky_re
)
model4.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model4.add(Dropout(0.5))
#
model4.add(
    Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="leaky_re
)
model4.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
# model4.add(Dropout(0.5))
#
model4.add(
    Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="leaky_re
)
model4.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model4.add(Dropout(0.5))

#
model4.add(
    Conv2D(filters=128, kernel_size=(3, 3), padding="Same", activation="leaky_re
)
model4.add(MaxPool2D(pool_size=(2, 2), strides=(2, 2)))
model4.add(Dropout(0.5))

#
model4.add(Flatten())
model4.add(Dense(1024, activation="leaky_relu"))
model4.add(Dropout(0.5))
model4.add(Dense(12, activation="softmax"))
optimizer = Adam(lr=0.001, beta_1=0.9, beta_2=0.999)
model4.compile(
    optimizer=optimizer, loss="categorical_crossentropy", metrics=["accuracy"]
)
```

```
In [58]: model3.summary()
```

```
Model: "sequential_2"
```

Layer (type)	Output Shape	Param #
conv2d_4 (Conv2D)	(None, 128, 128, 64)	4864
max_pooling2d_4 (MaxPooling2D)	(None, 64, 64, 64)	0
dropout (Dropout)	(None, 64, 64, 64)	0
conv2d_5 (Conv2D)	(None, 64, 64, 128)	73856
max_pooling2d_5 (MaxPooling2D)	(None, 32, 32, 128)	0
dropout_1 (Dropout)	(None, 32, 32, 128)	0
conv2d_6 (Conv2D)	(None, 32, 32, 128)	147584
max_pooling2d_6 (MaxPooling2D)	(None, 16, 16, 128)	0
dropout_2 (Dropout)	(None, 16, 16, 128)	0
conv2d_7 (Conv2D)	(None, 16, 16, 128)	147584
max_pooling2d_7 (MaxPooling2D)	(None, 8, 8, 128)	0
dropout_3 (Dropout)	(None, 8, 8, 128)	0
conv2d_8 (Conv2D)	(None, 8, 8, 128)	147584
max_pooling2d_8 (MaxPooling2D)	(None, 4, 4, 128)	0
dropout_4 (Dropout)	(None, 4, 4, 128)	0
flatten_2 (Flatten)	(None, 2048)	0
dense_4 (Dense)	(None, 1024)	2098176
dropout_5 (Dropout)	(None, 1024)	0
dense_5 (Dense)	(None, 12)	12300
Total params: 2,631,948		
Trainable params: 2,631,948		
Non-trainable params: 0		

```
In [59]: # fitting the model
hist_mod4 = model4.fit(X_train, y_train, batch_size=32, epochs=11, validation_sp
```

```
Epoch 1/11
95/95 [=====] - 109s 1s/step - loss: 2.3222 - accuracy:
0.1885 - val_loss: 1.7680 - val_accuracy: 0.4303
Epoch 2/11
95/95 [=====] - 107s 1s/step - loss: 1.6621 - accuracy:
0.4316 - val_loss: 1.1526 - val_accuracy: 0.6132
```

```

Epoch 3/11
95/95 [=====] - 105s 1s/step - loss: 1.2415 - accuracy:
0.5845 - val_loss: 1.3193 - val_accuracy: 0.5395
Epoch 4/11
95/95 [=====] - 110s 1s/step - loss: 1.1187 - accuracy:
0.6187 - val_loss: 0.8268 - val_accuracy: 0.7105
Epoch 5/11
95/95 [=====] - 109s 1s/step - loss: 0.9432 - accuracy:
0.6799 - val_loss: 0.9509 - val_accuracy: 0.6842
Epoch 6/11
95/95 [=====] - 109s 1s/step - loss: 0.7826 - accuracy:
0.7273 - val_loss: 0.6087 - val_accuracy: 0.7987
Epoch 7/11
95/95 [=====] - 109s 1s/step - loss: 0.7424 - accuracy:
0.7470 - val_loss: 0.6086 - val_accuracy: 0.7961
Epoch 8/11
95/95 [=====] - 109s 1s/step - loss: 0.6611 - accuracy:
0.7780 - val_loss: 0.6737 - val_accuracy: 0.7776
Epoch 9/11
95/95 [=====] - 110s 1s/step - loss: 0.6308 - accuracy:
0.7829 - val_loss: 0.6448 - val_accuracy: 0.7763
Epoch 10/11
95/95 [=====] - 109s 1s/step - loss: 0.6310 - accuracy:
0.7855 - val_loss: 0.9016 - val_accuracy: 0.7053
Epoch 11/11
95/95 [=====] - 107s 1s/step - loss: 1.0038 - accuracy:
0.6905 - val_loss: 0.6370 - val_accuracy: 0.7882

```

```
In [60]: model4.evaluate(X_test, y_test)
```

```
30/30 [=====] - 8s 279ms/step - loss: 0.7403 - accurac
y: 0.7526
```

```
Out[60]: [0.7402821779251099, 0.7526316046714783]
```

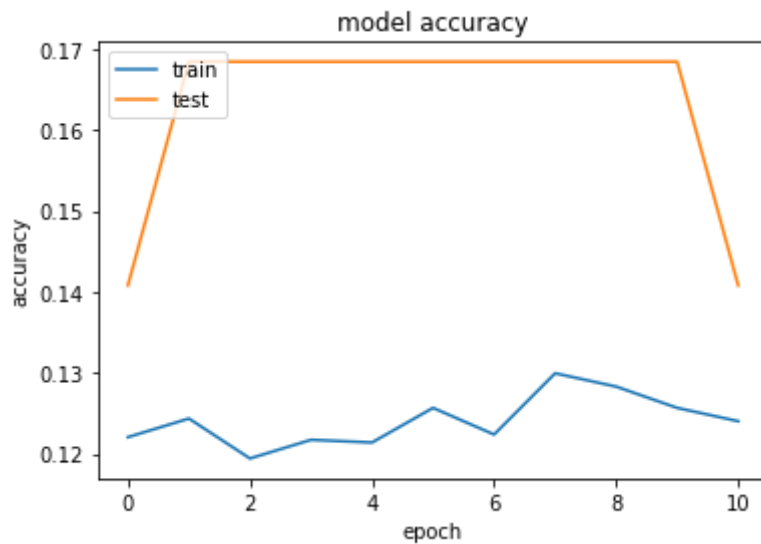
- I changed the activation functions to "leaky_relu" and increased dropout percentage, but removed a couple dropouts.
- Model has training accuracy of ~79% and a test accuracy of 75%.
- This model generalizes well.

Plotting Train & Test Accuracy

Model 2

```
In [61]: print(hist_mod2.history.keys())
# summarize history for accuracy
plt.plot(hist_mod2.history["accuracy"])
plt.plot(hist_mod2.history["val_accuracy"])
plt.title("model accuracy")
plt.ylabel("accuracy")
plt.xlabel("epoch")
plt.legend(["train", "test"], loc="upper left")
plt.show()
```

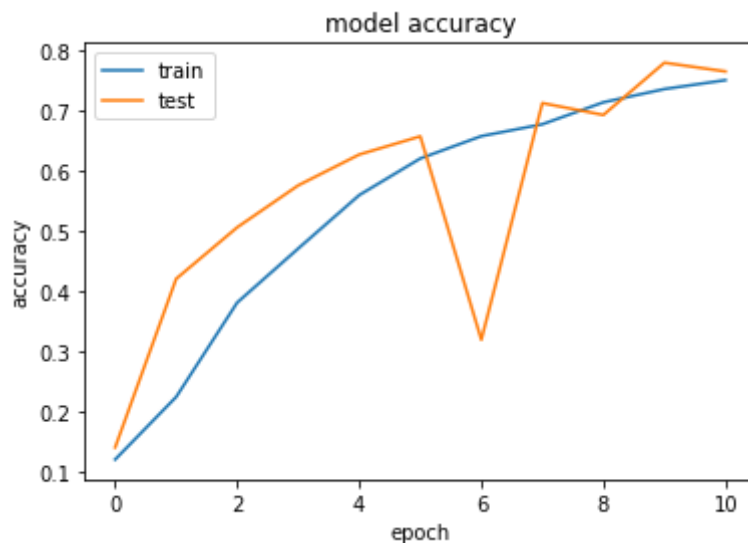
```
dict_keys(['loss', 'accuracy', 'val_loss', 'val_accuracy'])
```



Model 3

```
In [62]: print(hist_mod3.history.keys())
# summarize history for accuracy
plt.plot(hist_mod3.history["accuracy"])
plt.plot(hist_mod3.history["val_accuracy"])
plt.title("model accuracy")
plt.ylabel("accuracy")
plt.xlabel("epoch")
plt.legend(["train", "test"], loc="upper left")
plt.show()
```

```
dict_keys(['loss', 'accuracy', 'val_loss', 'val_accuracy'])
```

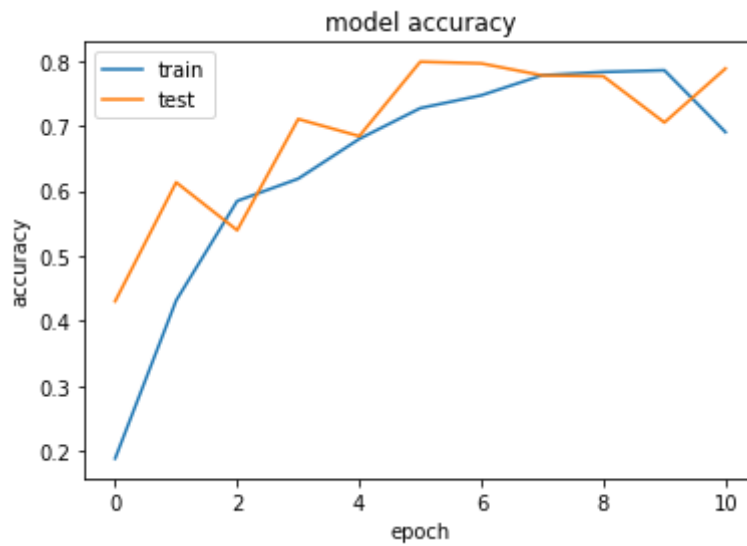


Model 4

```
In [63]: print(hist_mod4.history.keys())
# summarize history for accuracy
plt.plot(hist_mod4.history["accuracy"])
plt.plot(hist_mod4.history["val_accuracy"])
plt.title("model accuracy")
plt.ylabel("accuracy")
```

```
plt.xlabel("epoch")  
plt.legend(["train", "test"], loc="upper left")  
plt.show()
```

```
dict_keys(['loss', 'accuracy', 'val_loss', 'val_accuracy'])
```



Conclusion and key takeaways

- The amount of layers in a CNN seem to have a big impact on model performance.
- Changing the activation functions and the amount of dropout also helps the performance.