Filter cpdata.csv to MergeFileCrop.cv

Filter fertilizer.csv to MergerFileFert.csv

```python
import pandas as pd
```

```python
# Reading the data

crop_data_path = '../Data-raw/cpdata.csv'
fertilizer_data_path = '../Data-raw/Fertilizer.csv'

crop = pd.read_csv(crop_data_path)
fert = pd.read_csv(fertilizer_data_path)
```

```python
crop.head()
```

	temperature	humidity	ph	rainfall	label
0	20.879744	82.002744	6.502985	202.935536	rice
1	21.770462	80.319644	7.038096	226.655537	rice
2	23.004459	82.320763	7.840207	263.964248	rice
3	26.491096	80.158363	6.980401	242.864034	rice
4	20.130175	81.604873	7.628473	262.717340	rice

```python
fert.head()
```

	Unnamed: 0	Crop	N	P	K	pH
0	0	Rice	80	40	40	5.5
1	1	Jowar(Sorghum)	80	40	40	5.5
2	2	Barley(JAV)	70	40	45	5.5
3	3	Maize	80	40	20	5.5
4	4	Ragi(naachnnii)	50	40	20	5.5

```python
# Function for lowering the cases
def change_case(i):
```

```
        i = i.replace(" ", "")
        i = i.lower()
        return i
```

```
fert['Crop'] = fert['Crop'].apply(change_case)
crop['label'] = crop['label'].apply(change_case)
```

```
#make some changes in ferttilizer dataset

fert['Crop'] = fert['Crop'].replace('mungbeans','mungbean')
fert['Crop'] = fert['Crop'].replace('lentils(masoordal)','lentil')
fert['Crop'] = fert['Crop'].replace('pigeonpeas(toordal)','pigeonpeas')
fert['Crop'] = fert['Crop'].replace('mothbean(matki)','mothbeans')
fert['Crop'] = fert['Crop'].replace('chickpeas(channa)','chickpea')
```

```
crop.head()
```

	temperature	humidity	ph	rainfall	label
0	20.879744	82.002744	6.502985	202.935536	rice
1	21.770462	80.319644	7.038096	226.655537	rice
2	23.004459	82.320763	7.840207	263.964248	rice
3	26.491096	80.158363	6.980401	242.864034	rice
4	20.130175	81.604873	7.628473	262.717340	rice

```
crop.tail()
```

	temperature	humidity	ph	rainfall	label
3095	25.287846	89.636679	6.765095	58.286977	watermelon
3096	26.638386	84.695469	6.189214	48.324286	watermelon
3097	25.331045	84.305338	6.904242	41.532187	watermelon
3098	26.897502	83.892415	6.463271	43.971937	watermelon
3099	26.986037	89.413849	6.260839	58.548767	watermelon

```
crop_names = crop['label'].unique()
crop_names
```

```
array(['rice', 'wheat', 'mungbean', 'tea', 'millet', 'maize', 'lentil',
       'jute', 'coffee', 'cotton', 'groundnut', 'peas', 'rubber',
       'sugarcane', 'tobacco', 'kidneybeans', 'mothbeans', 'coconut',
       'blackgram', 'adzukibeans', 'pigeonpeas', 'chickpea', 'banana',
       'grapes', 'apple', 'mango', 'muskmelon', 'orange', 'papaya',
       'pomegranate', 'watermelon'], dtype=object)
```

```
fert.head()
```

	Unnamed: 0	Crop	N	P	K	pH
0	0	rice	80	40	40	5.5
1	1	jowar(sorghum)	80	40	40	5.5
2	2	barley(jav)	70	40	45	5.5
3	3	maize	80	40	20	5.5
4	4	ragi(naachnnii)	50	40	20	5.5

```
del fert['Unnamed: 0']
```

```
crop_names_from_fert = fert['Crop'].unique()
crop_names_from_fert
```

```
array(['rice', 'jowar(sorghum)', 'barley(jav)', 'maize',
       'ragi(naachnnii)', 'chickpea', 'frenchbeans(farasbi)',
       'favabeans(papdi-val)', 'limabeans(pavta)', 'clusterbeans(gavar)',
       'soyabean', 'blackeyedbeans(chawli)', 'kidneybeans', 'pigeonpeas',
       'mothbeans', 'mungbean', 'greenpeas', 'horsegram(kulthi)',
       'blackgram', 'rapeseed(mohri)', 'corianderseeds', 'mustardseeds',
       'sesameseed', 'cuminseeds', 'lentil', 'brinjal', 'beetroot',
       'bittergourd', 'bottlegourd', 'capsicum', 'cabbage', 'carrot',
       'cauliflower', 'cucumber', 'corianderleaves', 'curryleaves',
       'drumstick-moringa', 'chili', 'ladyfinger', 'mushroom', 'onion',
       'potato', 'pumpkin', 'radish', 'olive', 'sweetpotato',
       'fenugreekleaf(methi)', 'spinach', 'ridgegourd',
       'gooseberry(amla)', 'jambun(syzygiumcumini)',
       'ziziphusmauritiana(bor)', 'garciniaindica(kokam)', 'tamarind',
       'tapioca(suran)', 'garlic', 'lemon', 'tomato', 'ashgourd',
       'pineapple', 'pomegranate', 'banana', 'mango', 'grapes',
       'jackfruit', 'guava', 'watermelon', 'muskmelon', 'apricot',
       'apple', 'chickoo', 'custardapple', 'dates', 'figs', 'orange',
       'papaya', 'aniseed', 'asafoetida', 'bayleaf', 'blackpepper',
       'cardamom', 'cinnamon', 'cloves', 'jaiphal(nutmeg)', 'ginger',
       'turmeric', 'cashewnuts', 'raisins', 'coconut', 'almondnut',
       'arecanut', 'pistachionut', 'lemongrass', 'cotton', 'jute',
       'coffee', 'sunflower'], dtype=object)
```

```
for i in crop_names_from_fert:
    print(crop[crop['label'] == i])

    temperature    humidity        ph    rainfall label
```

```
0      20.879744  82.002744  6.502985  202.935536  rice
1      21.770462  80.319644  7.038096  226.655537  rice
2      23.004459  82.320763  7.840207  263.964248  rice
3      26.491096  80.158363  6.980401  242.864034  rice
4      20.130175  81.604873  7.628473  262.717340  rice
..           ...        ...       ...         ...   ...
95     22.683191  83.463583  6.604993  194.265172  rice
96     21.533463  82.140041  6.500343  295.924880  rice
97     21.408658  83.329319  5.935745  287.576694  rice
98     26.543481  84.673536  7.072656  183.622266  rice
99     23.359054  83.595123  5.333323  188.413665  rice

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
       temperature   humidity        ph    rainfall  label
500      22.613600  63.690706  5.749914   87.759539  maize
501      26.100184  71.574769  6.931757  102.266244  maize
502      23.558821  71.593514  6.657965   66.719955  maize
503      19.972160  57.682729  6.596061   60.651715  maize
504      18.478913  62.695039  5.970458   65.438354  maize
..             ...        ...       ...         ...    ...
595      18.928519  72.800861  6.158860   82.341629  maize
596      23.305468  63.246480  6.385684  108.760300  maize
597      18.748267  62.498785  6.417820   70.234016  maize
598      19.742133  59.662631  6.381202   65.508614  maize
599      25.730444  70.747393  6.877869   98.737713  maize

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
       temperature   humidity        ph   rainfall     label
2100     17.024985  16.988612  7.485996  88.551231  chickpea
2101     19.020613  17.131591  6.920251  79.926981  chickpea
2102     17.887765  15.405897  5.996932  68.549329  chickpea
2103     18.868056  15.658092  6.391174  88.510490  chickpea
2104     18.369526  19.563810  7.152811  79.263577  chickpea
...            ...        ...       ...        ...       ...
2195     17.341502  18.756263  8.861480  67.954543  chickpea
2196     17.437327  14.338474  7.861128  73.092670  chickpea
2197     18.897802  19.761829  7.452671  69.095125  chickpea
2198     18.591908  14.779596  7.168096  89.609825  chickpea
2199     18.315615  15.361435  7.263119  81.787105  chickpea

[100 rows x 5 columns]
Empty DataFrame
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Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
```

```
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity         ph    rainfall        label
1500    17.136928  20.595417   5.685972  128.256862  kidneybeans
1501    19.634743  18.907056   5.759237  106.359818  kidneybeans
1502    22.913502  21.339531   5.873172  109.225556  kidneybeans
1503    16.433403  24.240459   5.926677  140.371781  kidneybeans
1504    22.139747  23.022511   5.955617   76.641283  kidneybeans
...           ...        ...        ...         ...          ...
1595    20.109938  23.223238   5.595032   73.363865  kidneybeans
1596    23.605066  21.905396   5.525905  100.597873  kidneybeans
1597    19.731369  24.894874   5.819404   84.063541  kidneybeans
1598    20.934099  21.189301   5.562202  133.191442  kidneybeans
1599    18.782263  20.247683   5.630665  104.257072  kidneybeans

[100 rows x 5 columns]
      temperature   humidity         ph    rainfall        label
2000    36.512684  57.928872   6.031608  122.653969   pigeonpeas
2001    36.891637  62.731782   5.269085  163.726655   pigeonpeas
2002    29.235405  59.389676   5.985793  103.330180   pigeonpeas
2003    27.335349  43.357960   6.091863  142.330368   pigeonpeas
2004    21.064368  55.469859   5.624731  184.622671   pigeonpeas
...           ...        ...        ...         ...          ...
2095    29.892866  66.353751   6.931925  198.140300   pigeonpeas
2096    29.377356  44.822946   6.842744  172.401680   pigeonpeas
2097    29.650529  42.898332   6.876573  186.922605   pigeonpeas
2098    19.542849  66.347773   6.151029  173.110698   pigeonpeas
2099    20.046118  48.939056   4.567446  122.456420   pigeonpeas

[100 rows x 5 columns]
      temperature   humidity         ph    rainfall        label
1600    27.910952  64.709306   3.692864   32.678919    mothbeans
1601    27.322206  51.278688   4.371746   36.503791    mothbeans
1602    28.660242  59.318912   8.399136   36.926297    mothbeans
1603    29.029553  61.093875   8.840656   72.980166    mothbeans
1604    27.780315  54.650300   8.153023   32.050253    mothbeans
...           ...        ...        ...         ...          ...
1695    29.337434  49.003231   8.914075   42.440543    mothbeans
1696    27.965837  61.349001   8.639586   70.104721    mothbeans
1697    24.868040  48.275320   8.621514   63.918765    mothbeans
1698    25.876823  45.963419   5.838509   38.532547    mothbeans
1699    31.019636  49.976752   3.532009   32.812965    mothbeans

[100 rows x 5 columns]
     temperature   humidity         ph    rainfall        label
200    27.433294  87.805077   7.185301   54.733676     mungbean
201    28.334043  80.772760   7.034214   38.797641     mungbean
202    27.014704  84.342627   6.635969   55.296354     mungbean
203    28.174327  81.045548   6.828187   36.357207     mungbean
204    29.878881  87.327612   6.890780   44.752159     mungbean
..           ...        ...        ...         ...          ...
295    28.727527  89.127604   7.069748   58.529743     mungbean
296    27.956397  83.527060   6.921994   43.257268     mungbean
297    28.174587  83.696593   6.770955   37.246465     mungbean
298    28.776535  86.691340   6.983130   56.124432     mungbean
299    28.438097  83.489914   6.267684   52.554700     mungbean
```

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[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity         ph    rainfall      label
1800    29.484400  63.199153   7.454532   71.890907  blackgram
1801    26.734340  68.139997   7.040056   67.150964  blackgram
1802    26.272744  62.288149   7.418651   70.232076  blackgram
1803    34.036792  67.211138   6.501869   73.235736  blackgram
1804    28.036441  65.066017   6.814411   72.495077  blackgram
...           ...        ...        ...         ...        ...
1895    33.369844  65.677182   6.874142   64.895175  blackgram
1896    31.434506  62.993035   7.760618   64.776515  blackgram
1897    27.716783  63.291034   6.781842   68.565080  blackgram
1898    32.639187  61.300905   7.326980   61.838761  blackgram
1899    32.747739  67.779546   7.453975   63.377844  blackgram

[100 rows x 5 columns]
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Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
     temperature   humidity         ph    rainfall   label
600    28.051536  63.498022   7.604110   43.357954  lentil
601    19.440843  63.277715   7.728832   46.831301  lentil
602    29.848231  60.638726   7.491217   46.804526  lentil
603    21.363838  69.923759   6.633865   46.635286  lentil
604    26.286639  68.519667   7.324863   46.138330  lentil
..           ...        ...        ...         ...     ...
695    23.052764  60.424786   7.011121   52.602853  lentil
696    21.658458  63.583371   6.280726   38.076594  lentil
697    26.250703  67.627797   7.621495   40.810630  lentil
698    20.971953  63.831799   7.630424   53.102079  lentil
699    23.897364  66.321020   7.802212   40.745368  lentil

[100 rows x 5 columns]
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Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity         ph    rainfall          label
2900    24.559816  91.635362   5.922936  111.968462    pomegranate
2901    19.656901  89.937010   5.937650  108.045893    pomegranate
2902    18.783596  87.402477   6.804781  102.518476    pomegranate
2903    24.146963  94.511066   6.424671  110.231663    pomegranate
2904    22.445813  89.901470   6.738016  109.390600    pomegranate
...           ...        ...        ...         ...            ...
2995    20.002190  85.836182   7.116539  112.337046    pomegranate
2996    19.851393  89.807323   6.430163  102.818636    pomegranate
2997    21.254336  92.650589   7.159521  106.278467    pomegranate
2998    23.653741  93.326575   6.431266  109.807618    pomegranate
2999    23.884048  86.206138   6.082572  108.312179    pomegranate

[100 rows x 5 columns]
      temperature   humidity         ph    rainfall   label
2200    29.367924  76.249001   6.149934   92.828409  banana
2201    27.333690  83.676752   5.849076  101.049479  banana
2202    27.400536  82.962213   6.276800  104.937800  banana
2203    29.315908  80.115857   5.926825   90.109781  banana
2204    26.054330  79.396545   5.519088  113.229737  banana
...           ...        ...        ...         ...     ...
2295    27.359116  84.546250   6.387431   90.812505  banana
2296    28.010680  76.528081   5.891414  103.704078  banana
2297    28.672089  82.207936   5.725419   94.379875  banana
2298    27.345851  78.487383   6.281070   92.155243  banana
2299    29.507046  78.205856   5.507642   98.125658  banana
```

```
[100 rows x 5 columns]
      temperature   humidity        ph    rainfall   label
2500    29.737700  47.548852  5.954627   90.095869   mango
2501    33.556956  53.729798  4.757115   98.675276   mango
2502    27.003155  47.675254  5.699587   95.851183   mango
2503    33.561502  45.535566  5.977414   95.705259   mango
2504    35.898556  54.259642  6.430139   92.197217   mango
...           ...        ...       ...         ...     ...
2595    31.484517  48.779263  4.525722   93.172220   mango
2596    27.698193  51.415932  5.403908  100.772070   mango
2597    30.412358  52.481006  6.621624   93.923759   mango
2598    32.177520  54.013527  6.207496   91.887661   mango
2599    32.611261  47.749165  5.418475   91.101908   mango


[100 rows x 5 columns]
      temperature   humidity        ph    rainfall   label
2300    29.996772  81.541566  6.112306   67.125345  grapes
2301    30.728040  82.426141  6.092242   68.381355  grapes
2302    32.445778  83.885049  5.896343   68.739325  grapes
2303    37.465668  80.659687  6.155261   66.838723  grapes
2304    22.032962  83.743728  5.732454   65.344408  grapes
...           ...        ...       ...         ...     ...
2395     9.851243  80.226317  5.965379   68.428024  grapes
2396    24.972561  82.728287  6.476758   66.700163  grapes
2397    27.237083  82.945733  6.224543   70.425089  grapes
2398    18.706791  83.479529  6.209928   66.596449  grapes
2399     9.949929  82.551390  5.841138   66.008176  grapes


[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity        ph    rainfall       label
3000    26.473302  80.922544  6.283818   53.657426  watermelon
3001    25.187800  83.446217  6.818261   46.874209  watermelon
3002    25.299547  81.775276  6.376201   57.041471  watermelon
3003    24.746313  88.308663  6.581588   57.958261  watermelon
3004    26.587407  81.325632  6.932740   41.875400  watermelon
...           ...        ...       ...         ...         ...
3095    25.287846  89.636679  6.765095   58.286977  watermelon
3096    26.638386  84.695469  6.189214   48.324286  watermelon
3097    25.331045  84.305338  6.904242   41.532187  watermelon
3098    26.897502  83.892415  6.463271   43.971937  watermelon
3099    26.986037  89.413849  6.260839   58.548767  watermelon


[100 rows x 5 columns]
      temperature   humidity        ph    rainfall      label
2600    27.578269  94.118782  6.776533   28.082532  muskmelon
2601    27.820548  93.035552  6.528404   26.324055  muskmelon
2602    29.099104  94.222378  6.750146   22.524973  muskmelon
2603    28.049436  90.831307  6.562833   20.762230  muskmelon
2604    29.916906  94.556956  6.117530   28.160572  muskmelon
...           ...        ...       ...         ...        ...
2695    29.527531  94.574594  6.700338   21.135457  muskmelon
2696    28.504164  93.468065  6.565313   24.200072  muskmelon
2697    28.895786  94.789930  6.286515   23.036250  muskmelon
2698    27.049275  91.382173  6.448062   23.657475  muskmelon
2699    28.960179  91.695322  6.585873   24.745820  muskmelon
```

```
[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
     temperature   humidity        ph    rainfall  label
2400   22.750888  90.694892  5.521467  110.431786  apple
2401   23.849401  94.348150  6.133221  114.051250  apple
2402   22.608010  94.589006  6.226290  116.039659  apple
2403   21.186674  91.134357  6.321152  122.233323  apple
2404   23.410447  91.699133  5.587906  116.077793  apple
...          ...        ...       ...         ...    ...
2495   23.805938  92.488795  5.889481  119.633555  apple
2496   22.319441  90.851744  5.732758  100.117344  apple
2497   22.144641  93.825674  6.400321  120.631078  apple
2498   23.651676  94.505288  6.496934  115.361127  apple
2499   22.169395  90.271856  6.229499  124.468311  apple

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
     temperature   humidity        ph    rainfall   label
2700   15.781442  92.510777  6.354007  119.035002  orange
2701   26.030973  91.508193  7.511755  101.284774  orange
2702   13.360506  91.356082  7.335158  111.226688  orange
2703   18.879577  92.043045  7.813917  114.665951  orange
2704   29.477417  91.578029  7.129137  111.172750  orange
...          ...        ...       ...         ...     ...
2795   32.717485  90.546083  7.656978  113.328978  orange
2796   25.162966  92.547360  7.105905  114.311720  orange
2797   27.681673  94.473169  7.199106  113.999515  orange
2798   21.350934  90.949297  7.871063  107.086209  orange
2799   11.698946  93.256389  7.566166  103.200599  orange

[100 rows x 5 columns]
     temperature   humidity        ph    rainfall   label
2800   35.214628  91.497251  6.793245  243.074507  papaya
2801   42.394134  90.790281  6.576261   88.466075  papaya
2802   38.419163  91.142204  6.751453  119.265388  papaya
2803   35.332949  92.115086  6.560743  235.613359  papaya
2804   42.923253  90.076005  6.938313  196.240824  papaya
...          ...        ...       ...         ...     ...
2895   40.102077  94.351102  6.979102  149.119999  papaya
2896   38.589545  91.580765  6.825665  102.270823  papaya
2897   41.313301  91.150880  6.617067  239.742755  papaya
2898   37.035519  91.794302  6.551893  188.518142  papaya
2899   23.012402  91.073555  6.598860  208.335798  papaya

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
```

```
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
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Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
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Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity         ph    rainfall    label
1700    26.762749  92.860569   6.420019  224.590366  coconut
1701    25.612944  94.313884   5.740055  224.320676  coconut
1702    28.130115  95.648076   5.686973  151.076190  coconut
1703    25.028872  91.537209   6.293662  179.824894  coconut
1704    27.797977  99.645730   6.381975  181.694228  coconut
...           ...        ...        ...         ...      ...
1795    28.435729  95.884041   5.665785  203.928371  coconut
1796    28.940997  93.001090   5.764615  191.772309  coconut
1797    26.454887  93.450426   5.901496  149.222026  coconut
1798    25.794905  93.841506   5.779033  152.423871  coconut
1799    26.931419  98.803136   5.671549  166.571288  coconut

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
      temperature   humidity         ph    rainfall    label
```

```
900     24.402289  79.197320  7.231325  90.802236  cotton
901     23.095956  84.862757  6.925412  71.295811  cotton
902     23.965635  76.976967  7.633437  90.756167  cotton
903     24.887381  75.621372  6.827355  89.760504  cotton
904     25.362438  83.632761  6.176716  88.436189  cotton
..            ...        ...       ...        ...     ...
995     22.107190  78.583201  6.364730  74.941366  cotton
996     23.038140  76.110215  6.913679  91.496975  cotton
997     24.547953  75.397527  7.766260  63.880799  cotton
998     23.738680  75.775038  7.556064  76.636692  cotton
999     22.318719  83.861300  7.288377  65.357470  cotton

[100 rows x 5 columns]
     temperature   humidity        ph   rainfall  label
700     25.524690  72.248508  6.002525  151.886997  jute
701     26.591050  82.941641  6.033485  161.247000  jute
702     25.297818  86.887054  7.121934  196.624951  jute
703     25.721009  88.165136  6.207460  175.608670  jute
704     23.584193  72.004608  6.090060  190.424216  jute
..            ...        ...       ...         ...   ...
795     23.874845  86.792613  6.718725  177.514731  jute
796     23.928879  88.071123  6.880205  154.660874  jute
797     24.814412  81.686889  6.861069  190.788639  jute
798     24.447439  82.286484  6.769346  190.968489  jute
799     26.574217  73.819949  7.261581  159.322307  jute

[100 rows x 5 columns]
     temperature   humidity        ph   rainfall   label
800     26.333780  57.364700  7.261314  191.654941  coffee
801     26.452885  55.322227  7.235070  144.686134  coffee
802     25.708227  52.886671  7.189156  136.732509  coffee
803     24.128325  56.181077  6.431900  147.275782  coffee
804     23.443723  60.395233  6.423211  122.210325  coffee
..            ...        ...       ...         ...     ...
895     26.774637  66.413269  6.780064  177.774507  coffee
896     27.417112  56.636362  6.086922  127.924610  coffee
897     24.131797  67.225123  6.362608  173.322839  coffee
898     26.272418  52.127394  6.758793  127.175293  coffee
899     23.603016  60.396475  6.779833  140.937041  coffee

[100 rows x 5 columns]
Empty DataFrame
Columns: [temperature, humidity, ph, rainfall, label]
Index: []
```

```
crop['label']
```

```
0            rice
1            rice
2            rice
3            rice
4            rice
           ...
3095    watermelon
3096    watermelon
3097    watermelon
3098    watermelon
3099    watermelon
Name: label, Length: 3100, dtype: object
```

```
extract_labels = []
```

```
for i in crop_names_from_fert:
    if i in crop_names:
        extract_labels.append(i)
```

```
# using extract labesl on crop to get all the data related to those labels
new_crop = pd.DataFrame(columns = crop.columns)
new_fert = pd.DataFrame(columns = fert.columns)
```

```
for label in extract_labels:
    new_crop = new_crop.append(crop[crop['label'] == label])
```

```
for label in extract_labels:
    new_fert = new_fert.append(fert[fert['Crop'] == label].iloc[0])
```

```
new_crop
```

	temperature	humidity	ph	rainfall	label
0	20.879744	82.002744	6.502985	202.935536	rice
1	21.770462	80.319644	7.038096	226.655537	rice
2	23.004459	82.320763	7.840207	263.964248	rice
3	26.491096	80.158363	6.980401	242.864034	rice
4	20.130175	81.604873	7.628473	262.717340	rice
...	...	...	...	...	...
895	26.774637	66.413269	6.780064	177.774507	coffee
896	27.417112	56.636362	6.086922	127.924610	coffee
897	24.131797	67.225123	6.362608	173.322839	coffee
898	26.272418	52.127394	6.758793	127.175293	coffee
899	23.603016	60.396475	6.779833	140.937041	coffee

2200 rows × 5 columns

```
new_fert
```

Crop	N	P	K	pH

	Crop	N	P	K	pH
0	rice	80	40	40	5.5
3	maize	80	40	20	5.5
5	chickpea	40	60	80	5.5
12	kidneybeans	20	60	20	5.5
13	pigeonpeas	20	60	20	5.5
14	mothbeans	20	40	20	5.5
15	mungbean	20	40	20	5.5
18	blackgram	40	60	20	5.0
24	lentil	20	60	20	5.5
60	pomegranate	20	10	40	5.5
61	banana	100	75	50	6.5
62	mango	20	20	30	5.0
63	grapes	20	125	200	4.0
66	watermelon	100	10	50	5.5
67	muskmelon	100	10	50	5.5
69	apple	20	125	200	6.5
74	orange	20	10	10	4.0
75	papaya	50	50	50	6.0
88	coconut	20	10	30	5.0
93	cotton	120	40	20	5.5

	Crop	N	P	K	pH
94	jute	80	40	40	5.5
95	coffee	100	20	30	5.5

```
new_crop.to_csv('../Data-raw/MergeFileCrop.csv')
new_fert.to_csv('../Data-raw/FertilizerData.
```