| species | elevation | soil\_type | sepal\_length | sepal\_width | petal\_length | petal\_width | sepal\_area | petal\_area | sepal\_aspect\_ratio | ... | sepal\_to\_petal\_length\_ratio | sepal\_to\_petal\_width\_ratio | sepal\_petal\_length\_diff | sepal\_petal\_width\_diff | petal\_curvature\_mm | petal\_texture\_trichomes\_per\_mm2 | leaf\_area\_cm2 | sepal\_area\_sqrt | petal\_area\_sqrt | area\_ratios |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 931 | virginica | 251.5 | loamy | 6.70 | 3.33 | 4.63 | 1.94 | 22.3110 | 8.9822 | 2.012012 | ... | 1.447084 | 1.716495 | 2.07 | 1.39 | 7.96 | 10.80 | 56.34 | 4.723452 | 2.997032 | 2.483913 |
| 132 | setosa | 150.2 | clay | 5.18 | 3.11 | 1.56 | 0.33 | 16.1098 | 0.5148 | 1.665595 | ... | 3.320513 | 9.424242 | 3.62 | 2.78 | 5.37 | 22.10 | 59.84 | 4.013702 | 0.717496 | 31.293318 |
| 353 | setosa | 178.8 | clay | 4.71 | 4.20 | 1.53 | 0.58 | 19.7820 | 0.8874 | 1.121429 | ... | 3.078431 | 7.241379 | 3.18 | 3.62 | 5.05 | 22.61 | 57.08 | 4.447696 | 0.942019 | 22.292089 |
| 376 | setosa | 203.9 | clay | 5.14 | 4.13 | 1.52 | 0.31 | 21.2282 | 0.4712 | 1.244552 | ... | 3.381579 | 13.322581 | 3.62 | 3.82 | 5.49 | 18.79 | 51.04 | 4.607407 | 0.686440 | 45.051358 |
| 329 | setosa | 285.2 | sandy | 4.68 | 2.95 | 1.23 | 0.20 | 13.8060 | 0.2460 | 1.586441 | ... | 3.804878 | 14.750000 | 3.45 | 2.75 | 4.45 | 19.58 | 46.68 | 3.715643 | 0.495984 | 56.121951 |
| 154 | setosa | 144.7 | clay | 5.43 | 3.83 | 1.59 | 0.38 | 20.7969 | 0.6042 | 1.417755 | ... | 3.415094 | 10.078947 | 3.84 | 3.45 | 4.58 | 18.94 | 54.00 | 4.560362 | 0.777303 | 34.420556 |
| 957 | virginica | 162.2 | loamy | 6.34 | 2.84 | 6.15 | 2.22 | 18.0056 | 13.6530 | 2.232394 | ... | 1.030894 | 1.279279 | 0.19 | 0.62 | 13.44 | 10.58 | 72.82 | 4.243301 | 3.694997 | 1.318802 |
| 355 | setosa | 190.5 | loamy | 4.71 | 3.09 | 1.42 | 0.34 | 14.5539 | 0.4828 | 1.524272 | ... | 3.316901 | 9.088235 | 3.29 | 2.75 | 4.30 | 22.60 | 40.25 | 3.814957 | 0.694838 | 30.144780 |
| 263 | setosa | 256.1 | loamy | 4.76 | 3.17 | 1.62 | 0.37 | 15.0892 | 0.5994 | 1.501577 | ... | 2.938272 | 8.567568 | 3.14 | 2.80 | 5.30 | 19.91 | 58.38 | 3.884482 | 0.774209 | 25.173841 |
| 303 | setosa | 111.7 | sandy | 5.17 | 3.33 | 1.50 | 0.36 | 17.2161 | 0.5400 | 1.552553 | ... | 3.446667 | 9.250000 | 3.67 | 2.97 | 5.22 | 19.83 | 57.71 | 4.149229 | 0.734847 | 31.881667 |

10 rows × 21 columns

| species | elevation | soil\_type | sepal\_length | sepal\_width | petal\_length | petal\_width | sepal\_area | petal\_area | sepal\_aspect\_ratio | ... | sepal\_to\_petal\_length\_ratio | sepal\_to\_petal\_width\_ratio | sepal\_petal\_length\_diff | sepal\_petal\_width\_diff | petal\_curvature\_mm | petal\_texture\_trichomes\_per\_mm2 | leaf\_area\_cm2 | sepal\_area\_sqrt | petal\_area\_sqrt | area\_ratios |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 84 | setosa | 113.7 | loamy | 5.32 | 3.14 | 1.39 | 0.21 | 16.7048 | 0.2919 | 1.694268 | ... | 3.827338 | 14.952381 | 3.93 | 2.93 | 4.82 | 18.11 | 42.43 | 4.087151 | 0.540278 | 57.227818 |
| 651 | versicolor | 105.9 | loamy | 6.03 | 2.09 | 4.30 | 1.30 | 12.6027 | 5.5900 | 2.885167 | ... | 1.402326 | 1.607692 | 1.73 | 0.79 | 8.87 | 14.31 | 63.57 | 3.550028 | 2.364318 | 2.254508 |
| 413 | versicolor | 104.4 | sandy | 6.51 | 2.32 | 4.58 | 1.06 | 15.1032 | 4.8548 | 2.806034 | ... | 1.421397 | 2.188679 | 1.93 | 1.26 | 7.75 | 16.29 | 64.42 | 3.886284 | 2.203361 | 3.110983 |
| 1181 | virginica | 97.6 | sandy | 7.03 | 2.28 | 5.80 | 0.93 | 16.0284 | 5.3940 | 3.083333 | ... | 1.212069 | 2.451613 | 1.23 | 1.35 | 12.94 | 9.27 | 64.16 | 4.003548 | 2.322499 | 2.971524 |
| 582 | versicolor | 136.7 | sandy | 6.12 | 2.31 | 4.84 | 1.22 | 14.1372 | 5.9048 | 2.649351 | ... | 1.264463 | 1.893443 | 1.28 | 1.09 | 7.98 | 15.19 | 59.09 | 3.759947 | 2.429979 | 2.394188 |
| 1157 | virginica | 267.2 | clay | 5.38 | 3.06 | 6.09 | 2.32 | 16.4628 | 14.1288 | 1.758170 | ... | 0.883415 | 1.318966 | -0.71 | 0.74 | 13.51 | 6.97 | 50.27 | 4.057438 | 3.758830 | 1.165194 |
| 1118 | virginica | 283.1 | sandy | 7.01 | 2.80 | 6.08 | 1.87 | 19.6280 | 11.3696 | 2.503571 | ... | 1.152961 | 1.497326 | 0.93 | 0.93 | 11.57 | 9.30 | 67.16 | 4.430350 | 3.371884 | 1.726358 |
| 794 | versicolor | 264.0 | loamy | 6.40 | 2.84 | 3.40 | 1.12 | 18.1760 | 3.8080 | 2.253521 | ... | 1.882353 | 2.535714 | 3.00 | 1.72 | 7.60 | 13.19 | 63.34 | 4.263332 | 1.951410 | 4.773109 |
| 1 | setosa | 291.4 | clay | 5.48 | 4.05 | 1.53 | 0.37 | 22.1940 | 0.5661 | 1.353086 | ... | 3.581699 | 10.945946 | 3.95 | 3.68 | 5.90 | 20.45 | 52.53 | 4.711051 | 0.752396 | 39.205087 |
| 864 | virginica | 191.6 | clay | 6.47 | 2.85 | 6.05 | 2.13 | 18.4395 | 12.8865 | 2.270175 | ... | 1.069421 | 1.338028 | 0.42 | 0.72 | 13.09 | 11.80 | 68.17 | 4.294124 | 3.589777 | 1.430916 |
| 475 | versicolor | 228.3 | loamy | 6.41 | 2.87 | 4.46 | 1.24 | 18.3967 | 5.5304 | 2.233449 | ... | 1.437220 | 2.314516 | 1.95 | 1.63 | 8.37 | 17.74 | 49.70 | 4.289137 | 2.351680 | 3.326468 |
| 1040 | virginica | 276.9 | sandy | 6.23 | 2.00 | 5.19 | 1.67 | 12.4600 | 8.6673 | 3.115000 | ... | 1.200385 | 1.197605 | 1.04 | 0.33 | 10.30 | 8.83 | 58.68 | 3.529873 | 2.944028 | 1.437587 |
| 440 | versicolor | 106.4 | clay | 6.34 | 2.61 | 5.35 | 1.57 | 16.5474 | 8.3995 | 2.429119 | ... | 1.185047 | 1.662420 | 0.99 | 1.04 | 7.41 | 10.49 | 61.15 | 4.067850 | 2.898189 | 1.970046 |
| 569 | versicolor | 264.7 | loamy | 6.18 | 2.86 | 4.53 | 1.10 | 17.6748 | 4.9830 | 2.160839 | ... | 1.364238 | 2.600000 | 1.65 | 1.76 | 9.36 | 15.75 | 51.82 | 4.204141 | 2.232263 | 3.547020 |
| 1189 | virginica | 138.7 | loamy | 6.35 | 3.19 | 4.78 | 2.32 | 20.2565 | 11.0896 | 1.990596 | ... | 1.328452 | 1.375000 | 1.57 | 0.87 | 11.91 | 12.08 | 53.07 | 4.500722 | 3.330105 | 1.826621 |
| 406 | versicolor | 287.6 | clay | 5.68 | 3.49 | 5.20 | 1.71 | 19.8232 | 8.8920 | 1.627507 | ... | 1.092308 | 2.040936 | 0.48 | 1.78 | 9.07 | 15.37 | 61.07 | 4.452325 | 2.981946 | 2.229330 |
| 397 | setosa | 79.3 | clay | 4.81 | 2.62 | 1.46 | 0.36 | 12.6022 | 0.5256 | 1.835878 | ... | 3.294521 | 7.277778 | 3.35 | 2.26 | 5.25 | 18.80 | 51.27 | 3.549958 | 0.724983 | 23.976788 |
| 600 | versicolor | 213.9 | clay | 5.62 | 3.04 | 3.90 | 1.55 | 17.0848 | 6.0450 | 1.848684 | ... | 1.441026 | 1.961290 | 1.72 | 1.49 | 8.41 | 17.06 | 67.47 | 4.133376 | 2.458658 | 2.826270 |
| 771 | versicolor | 282.9 | clay | 5.81 | 3.48 | 3.98 | 1.45 | 20.2188 | 5.7710 | 1.669540 | ... | 1.459799 | 2.400000 | 1.83 | 2.03 | 7.17 | 16.88 | 55.72 | 4.496532 | 2.402291 | 3.503518 |
| 1049 | virginica | 286.3 | clay | 4.55 | 3.59 | 6.10 | 1.79 | 16.3345 | 10.9190 | 1.267409 | ... | 0.745902 | 2.005587 | -1.55 | 1.80 | 13.18 | 7.98 | 63.47 | 4.041596 | 3.304391 | 1.495970 |

20 rows × 21 columns