In [1]:

```
import numpy as np
import pandas as pd
```

In [2]:

```
z=pd.read_csv(r"C:\Users\user\Downloads\8_BreastCancerPrediction.csv")
z
```

Out[2]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothne
0	842302	M	17.99	10.38	122.80	1001.0	
1	842517	M	20.57	17.77	132.90	1326.0	
2	84300903	M	19.69	21.25	130.00	1203.0	
3	84348301	M	11.42	20.38	77.58	386.1	
4	84358402	M	20.29	14.34	135.10	1297.0	
...	...	...	...	...	...	...	
564	926424	M	21.56	22.39	142.00	1479.0	
565	926682	M	20.13	28.25	131.20	1261.0	
566	926954	M	16.60	28.08	108.30	858.1	
567	927241	M	20.60	29.33	140.10	1265.0	
568	92751	B	7.76	24.54	47.92	181.0	

569 rows × 33 columns

In [4]:

```
z.head(500)
```

Out[4]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothne
0	842302	M	17.99	10.38	122.80	1001.0	
1	842517	M	20.57	17.77	132.90	1326.0	
2	84300903	M	19.69	21.25	130.00	1203.0	
3	84348301	M	11.42	20.38	77.58	386.1	
4	84358402	M	20.29	14.34	135.10	1297.0	
...	...	...	...	...	...	...	
495	914333	B	14.87	20.21	96.12	680.9	
496	914366	B	12.65	18.17	82.69	485.6	
497	914580	B	12.47	17.31	80.45	480.1	
498	914769	M	18.49	17.52	121.30	1068.0	
499	91485	M	20.59	21.24	137.80	1320.0	

500 rows × 33 columns

In [5]:

```
z.tail(5)
```

Out[5]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness
564	926424	M	21.56	22.39	142.00	1479.0	(
565	926682	M	20.13	28.25	131.20	1261.0	(
566	926954	M	16.60	28.08	108.30	858.1	(
567	927241	M	20.60	29.33	140.10	1265.0	(
568	92751	B	7.76	24.54	47.92	181.0	(

5 rows × 33 columns

In [6]:

```
z.dtypes
```

Out[6]:

```
id                         int64
diagnosis                 object
radius_mean              float64
texture_mean             float64
perimeter_mean           float64
area_mean                float64
smoothness_mean          float64
compactness_mean         float64
concavity_mean           float64
concave points_mean      float64
symmetry_mean            float64
fractal_dimension_mean   float64
radius_se                float64
texture_se               float64
perimeter_se             float64
area_se                  float64
smoothness_se            float64
compactness_se           float64
concavity_se             float64
concave points_se        float64
symmetry_se              float64
fractal_dimension_se     float64
radius_worst             float64
texture_worst            float64
perimeter_worst          float64
area_worst               float64
smoothness_worst         float64
compactness_worst        float64
concavity_worst          float64
concave points_worst     float64
symmetry_worst           float64
fractal_dimension_worst  float64
Unnamed: 32              float64
dtype: object
```

In [7]:

```
z.index
```

Out[7]:

```
RangeIndex(start=0, stop=569, step=1)
```

In [8]:

```
z["area_mean"]
```

Out[8]:

```
0      1001.0
1      1326.0
2      1203.0
3       386.1
4      1297.0
        ...
564    1479.0
565    1261.0
566     858.1
567    1265.0
568     181.0
Name: area_mean, Length: 569, dtype: float64
```

In [9]:

```
z[1:9]
```

Out[9]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness
1	842517	M	20.57	17.77	132.90	1326.0	0
2	84300903	M	19.69	21.25	130.00	1203.0	0
3	84348301	M	11.42	20.38	77.58	386.1	0
4	84358402	M	20.29	14.34	135.10	1297.0	0
5	843786	M	12.45	15.70	82.57	477.1	0
6	844359	M	18.25	19.98	119.60	1040.0	0
7	84458202	M	13.71	20.83	90.20	577.9	0
8	844981	M	13.00	21.82	87.50	519.8	0

8 rows × 33 columns

In [10]:

```
z.loc[0:9]
```

Out[10]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness
0	842302	M	17.99	10.38	122.80	1001.0	0
1	842517	M	20.57	17.77	132.90	1326.0	0
2	84300903	M	19.69	21.25	130.00	1203.0	0
3	84348301	M	11.42	20.38	77.58	386.1	0
4	84358402	M	20.29	14.34	135.10	1297.0	0
5	843786	M	12.45	15.70	82.57	477.1	0
6	844359	M	18.25	19.98	119.60	1040.0	0
7	84458202	M	13.71	20.83	90.20	577.9	0
8	844981	M	13.00	21.82	87.50	519.8	0
9	84501001	M	12.46	24.04	83.97	475.9	0

10 rows × 33 columns

In [11]:

```
z.iloc[1:9]
```

Out[11]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness
1	842517	M	20.57	17.77	132.90	1326.0	0
2	84300903	M	19.69	21.25	130.00	1203.0	0
3	84348301	M	11.42	20.38	77.58	386.1	0
4	84358402	M	20.29	14.34	135.10	1297.0	0
5	843786	M	12.45	15.70	82.57	477.1	0
6	844359	M	18.25	19.98	119.60	1040.0	0
7	84458202	M	13.71	20.83	90.20	577.9	0
8	844981	M	13.00	21.82	87.50	519.8	0

8 rows × 33 columns

In [12]:

```
z.loc["area_mean":"compactness_mean"]
```

Out[12]:

id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness_mean

0 rows × 33 columns

In [13]:

```
pd.isna(z)
```

Out[13]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness_ı
0	False	False	False	False	False	False	
1	False	False	False	False	False	False	
2	False	False	False	False	False	False	
3	False	False	False	False	False	False	
4	False	False	False	False	False	False	
...	...	...	...	...	...	...	
564	False	False	False	False	False	False	
565	False	False	False	False	False	False	
566	False	False	False	False	False	False	
567	False	False	False	False	False	False	
568	False	False	False	False	False	False	

569 rows × 33 columns

In [14]:

```
z.fillna(value=10)
```

Out[14]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothne
0	842302	M	17.99	10.38	122.80	1001.0	
1	842517	M	20.57	17.77	132.90	1326.0	
2	84300903	M	19.69	21.25	130.00	1203.0	
3	84348301	M	11.42	20.38	77.58	386.1	
4	84358402	M	20.29	14.34	135.10	1297.0	
...	...	...	...	...	...	...	
564	926424	M	21.56	22.39	142.00	1479.0	
565	926682	M	20.13	28.25	131.20	1261.0	
566	926954	M	16.60	28.08	108.30	858.1	
567	927241	M	20.60	29.33	140.10	1265.0	
568	92751	B	7.76	24.54	47.92	181.0	

569 rows × 33 columns

In [15]:

```
z.dropna()
```

Out[15]:

id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothness_mean

0 rows × 33 columns

In [16]:

```
z.dropna(axis=1,how='any')
```

Out[16]:

	id	diagnosis	radius_mean	texture_mean	perimeter_mean	area_mean	smoothne
0	842302	M	17.99	10.38	122.80	1001.0	
1	842517	M	20.57	17.77	132.90	1326.0	
2	84300903	M	19.69	21.25	130.00	1203.0	
3	84348301	M	11.42	20.38	77.58	386.1	
4	84358402	M	20.29	14.34	135.10	1297.0	
...	...	...	...	...	...	...	
564	926424	M	21.56	22.39	142.00	1479.0	
565	926682	M	20.13	28.25	131.20	1261.0	
566	926954	M	16.60	28.08	108.30	858.1	
567	927241	M	20.60	29.33	140.10	1265.0	
568	92751	B	7.76	24.54	47.92	181.0	

569 rows × 32 columns

In [17]:

```
z.columns
```

Out[17]:

```
Index(['id', 'diagnosis', 'radius_mean', 'texture_mean', 'perimeter_mean',
       'area_mean', 'smoothness_mean', 'compactness_mean', 'concavity_mea
n',
       'concave points_mean', 'symmetry_mean', 'fractal_dimension_mean',
       'radius_se', 'texture_se', 'perimeter_se', 'area_se', 'smoothness_s
e',
       'compactness_se', 'concavity_se', 'concave points_se', 'symmetry_s
e',
       'fractal_dimension_se', 'radius_worst', 'texture_worst',
       'perimeter_worst', 'area_worst', 'smoothness_worst',
       'compactness_worst', 'concavity_worst', 'concave points_worst',
       'symmetry_worst', 'fractal_dimension_worst', 'Unnamed: 32'],
      dtype='object')
```

In [18]:

```
z=z[['area_mean','compactness_mean']]
z
```

Out[18]:

	area_mean	compactness_mean
0	1001.0	0.27760
1	1326.0	0.07864
2	1203.0	0.15990
3	386.1	0.28390
4	1297.0	0.13280
...	...	...
564	1479.0	0.11590
565	1261.0	0.10340
566	858.1	0.10230
567	1265.0	0.27700
568	181.0	0.04362

569 rows × 2 columns

In [19]:

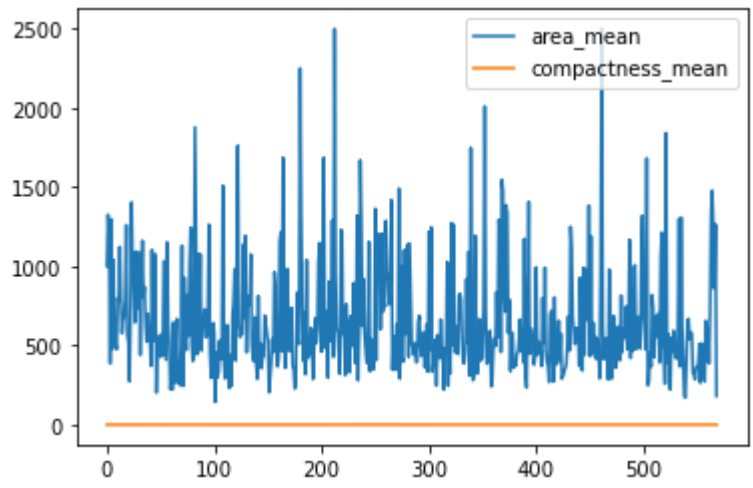
```
import matplotlib.pyplot as pp
```

In [20]:

```
z.plot.line()
```

Out[20]:

<AxesSubplot:>

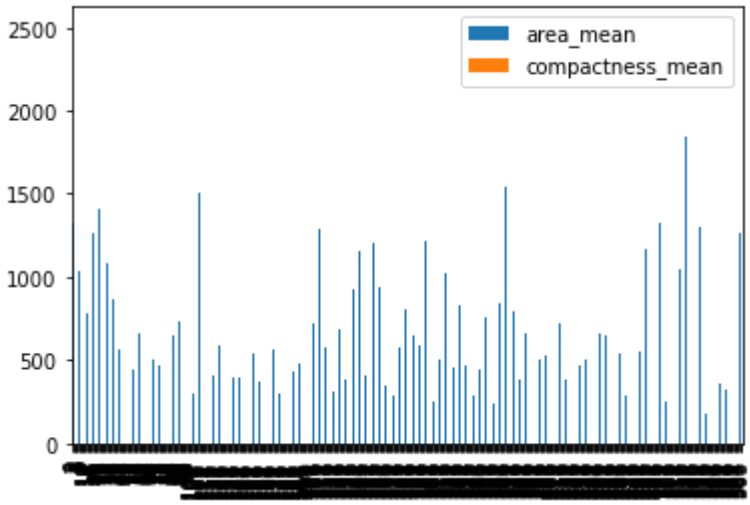


In [21]:

```
z.plot.bar()
```

Out[21]:

<AxesSubplot:>

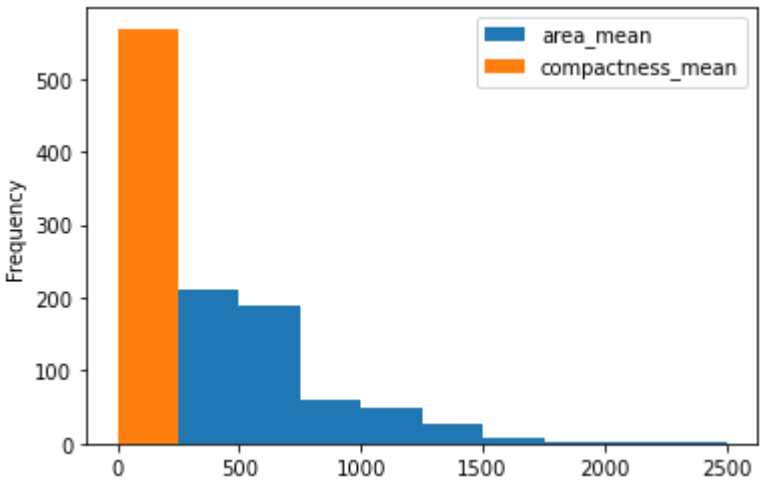


In [22]:

```
z.plot.hist()
```

Out[22]:

<AxesSubplot:ylabel='Frequency'>

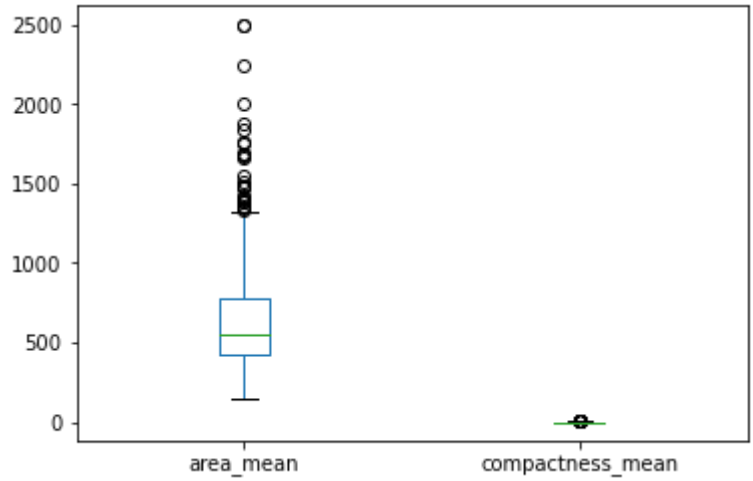


In [23]:

```
z.plot.box()
```

Out[23]:

<AxesSubplot:>



In [ ]:

```

```