```
In [49]: import numpy as np
```

```
In [50]: import pandas as pd
```

```
In [51]: df=pd.read_csv('heart.csv')
```

```
In [52]: df
```

Out[52]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	targe
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1	
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2	
2	41	0	1	130	204	0	0	172	0	1.4	2	0	2	
3	56	1	1	120	236	0	1	178	0	0.8	2	0	2	
4	57	0	0	120	354	0	1	163	1	0.6	2	0	2	
...	...	...	...	...	...	...	...	...	...	...	...	...	...	
298	57	0	0	140	241	0	1	123	1	0.2	1	0	3	
299	45	1	3	110	264	0	1	132	0	1.2	1	0	3	
300	68	1	0	144	193	1	1	141	0	3.4	1	2	3	
301	57	1	0	130	131	0	1	115	1	1.2	1	1	3	
302	57	0	1	130	236	0	0	174	0	0.0	1	1	2	

303 rows × 14 columns

```
In [53]: df.head()
```

Out[53]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1	1
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2	1
2	41	0	1	130	204	0	0	172	0	1.4	2	0	2	1
3	56	1	1	120	236	0	1	178	0	0.8	2	0	2	1
4	57	0	0	120	354	0	1	163	1	0.6	2	0	2	1

```
In [54]: df.shape
```

Out[54]: (303, 14)

```
In [55]: df.target
```

```
Out[55]:  0    1
          1    1
          2    1
          3    1
          4    1
              ..
          298    0
          299    0
          300    0
          301    0
          302    0
          Name: target, Length: 303, dtype: int64
```

In [ ]:

In [56]: `df.head(2)`

Out[56]:

	age	sex	cp	trestbps	chol	fbs	restecg	thalach	exang	oldpeak	slope	ca	thal	target
0	63	1	3	145	233	1	0	150	0	2.3	0	0	1	1
1	37	1	2	130	250	0	1	187	0	3.5	0	0	2	1

In [ ]:

In [57]: `df.isnull().sum().sum()`

Out[57]: 0

In [58]:
```python
x=df.drop(['target'],axis=1)
y=df['target']
```

In [59]: `from sklearn.model_selection import train_test_split`

In [60]: `x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.3,random_state=1)`

In [61]: `from sklearn.ensemble import RandomForestClassifier`

In [62]: `rfc1=RandomForestClassifier(n_estimators=200,max_depth=2)`

In [63]: `rfc1.fit(x_train,y_train)`

Out[63]: RandomForestClassifier(max_depth=2, n_estimators=200)
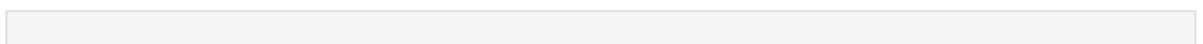
In [64]: `y_predict=rfc1.predict(x_test)`

In [65]: `from sklearn.metrics import confusion_matrix,accuracy_score`

In [66]: `confusion_matrix(y_test,y_predict)`

Out[66]:
```
array([[29, 12],
       [10, 40]], dtype=int64)
```
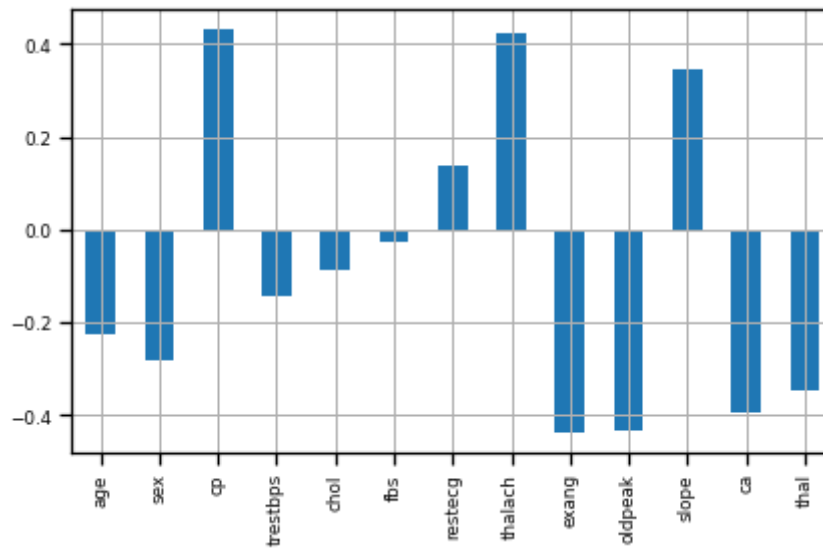
In [67]: `accuracy_score(y_test,y_predict)`

Out[67]: 0.7582417582417582

```
In [72]:  import seaborn as sns
          import matplotlib.pyplot as plt
          sns.set_context('notebook',font_scale=0.8)
          df.drop('target',axis=1).corrwith(df.target).plot(kind='bar',grid=True)
          title="correction with target feature"
          plt.tight_layout()
```



```
In [ ]:
```