In [2]:
```python
#importing libraries
import pandas as pd
import numpy as nm
import matplotlib.pyplot as mtp

#importing dataset
dataset=pd.read_csv('salary.csv')

#extracting independent and dependent variables
x=dataset.iloc[:,[2,3]].values
y=dataset.iloc[:,4].values

#splitting the dataset into training and test set
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.25,random_state=0)

#feature scaling
from sklearn.preprocessing import StandardScaler
st_x=StandardScaler()
x_train=st_x.fit_transform(x_train)
x_test=st_x.transform(x_test)
```

Filling the random forest algorithm to the training set

In [3]:
```python
#filling desicion tree classifier to the training set
from sklearn.ensemble import RandomForestClassifier
classifier=RandomForestClassifier(n_estimators=10,criterion="entropy")
classifier.fit(x_train,y_train)
```

Out[3]:
```
▼                  RandomForestClassifier
RandomForestClassifier(criterion='entropy', n_estimators=10)
```

predicting the test set result

In [4]:
```python
#predicting the test set result
y_pred=classifier.predict(x_test)
```

creating the confusion matrix

In [5]:
```python
#creating a confusion matrix
from sklearn.metrics import confusion_matrix
cm=confusion_matrix(y_test,y_pred)
```

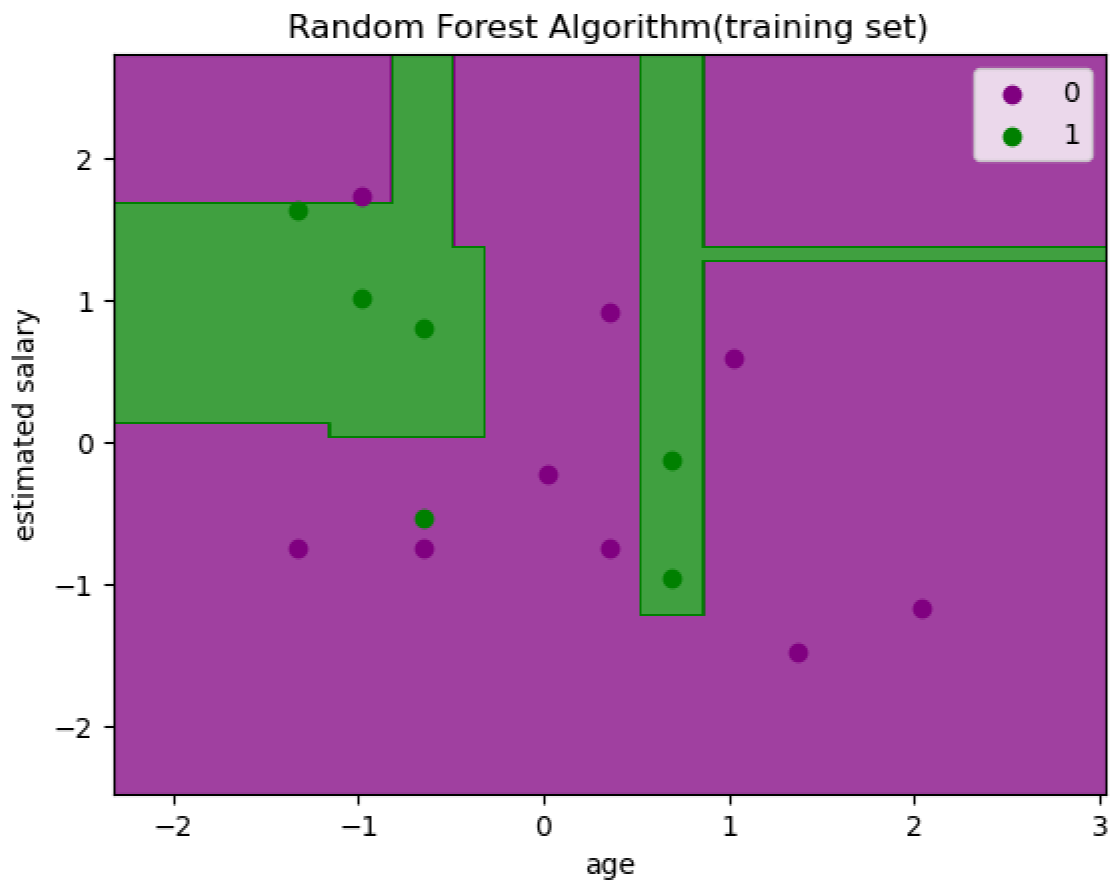
visualizing the training set result

In [6]:
```python
from matplotlib.colors import ListedColormap
x_set,y_set=x_train,y_train
x1,x2=nm.meshgrid(nm.arange(start=x_set[:,0].min()-1,stop=x_set[:,0].max()+1,step=0.01),
                  nm.arange(start=x_set[:,1].min()-1,stop=x_set[:,1].max()+1,step=0.01))
mtp.contourf(x1,x2,classifier.predict(nm.array([x1.ravel(),x2.ravel()]).T).reshape(x1.sh
                                      alpha=0.75,cmap=ListedColormap(('purple','green'))
mtp.xlim(x1.min(),x1.max())
mtp.ylim(x2.min(),x2.max())
```

Loading [MathJax]/extensions/Safe.js

```
for i,j in enumerate(nm.unique(y_set)):
    mtp.scatter(x_set[y_set==j,0],x_set[y_set==j,1],c=ListedColormap(('purple','green'))
mtp.title('Random Forest Algorithm(training set)')
mtp.xlabel('age')
mtp.ylabel('estimated salary')
mtp.legend()
mtp.show()
```

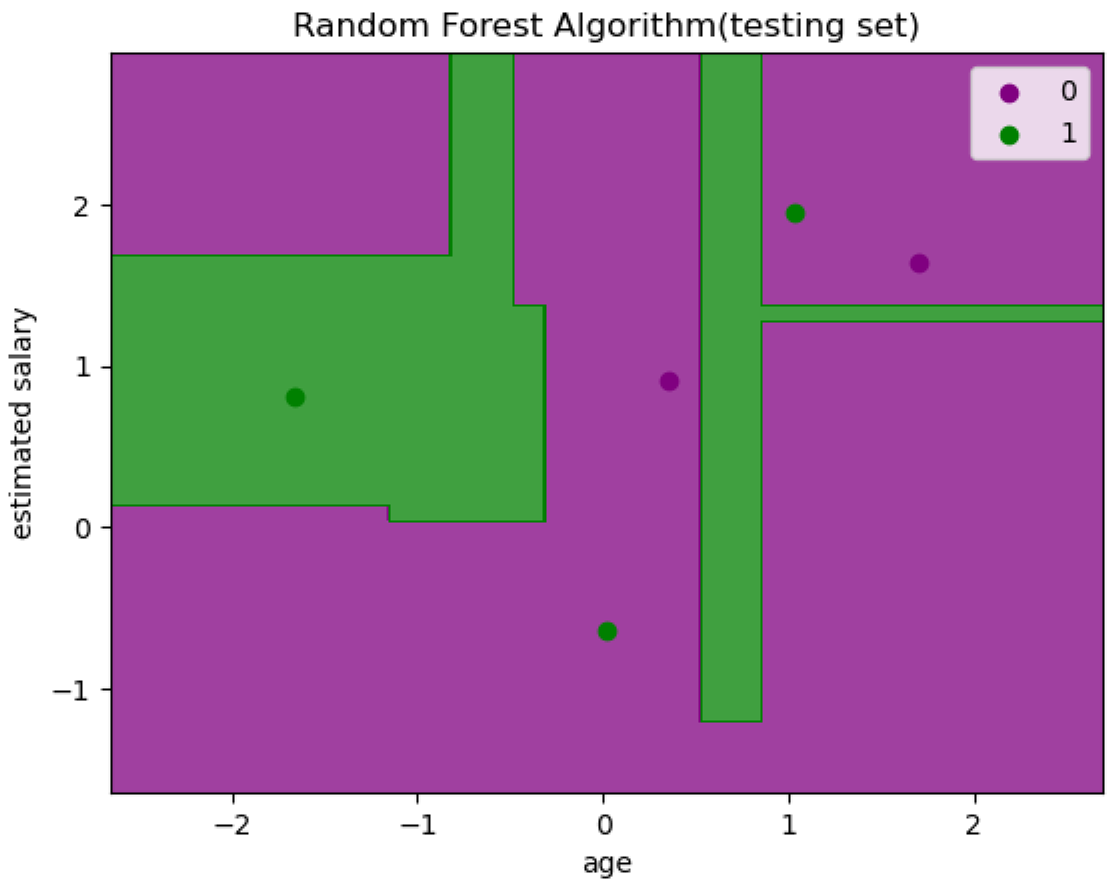
```
C:\Users\R.MUNIRANJANI\AppData\Local\Temp\ipykernel_12128\192588387.py:10: UserWarning:
*c* argument looks like a single numeric RGB or RGBA sequence, which should be avoided a
s value-mapping will have precedence in case its length matches with *x* & *y*.  Please
use the *color* keyword-argument or provide a 2D array with a single row if you intend t
o specify the same RGB or RGBA value for all points.
  mtp.scatter(x_set[y_set==j,0],x_set[y_set==j,1],c=ListedColormap(('purple','green'))
(i),label=j)
```



In [7]:
```
from matplotlib.colors import ListedColormap
x_set,y_set=x_test,y_test
x1,x2=nm.meshgrid(nm.arange(start=x_set[:,0].min()-1,stop=x_set[:,0].max()+1,step=0.01),
                  nm.arange(start=x_set[:,1].min()-1,stop=x_set[:,1].max()+1,step=0.01))
mtp.contourf(x1,x2,classifier.predict(nm.array([x1.ravel(),x2.ravel()]).T).reshape(x1.sh
                                      alpha=0.75,cmap=ListedColormap(('purple','green'))
mtp.xlim(x1.min(),x1.max())
mtp.ylim(x2.min(),x2.max())
for i,j in enumerate(nm.unique(y_set)):
    mtp.scatter(x_set[y_set==j,0],x_set[y_set==j,1],c=ListedColormap(('purple','green'))
mtp.title('Random Forest Algorithm(testing set)')
mtp.xlabel('age')
mtp.ylabel('estimated salary')
mtp.legend()
mtp.show()
```

Loading [MathJax]/extensions/Safe.js

```
C:\Users\R.MUNIRANJANI\AppData\Local\Temp\ipykernel_12128\3415988175.py:10: UserWarning:
*c* argument looks like a single numeric RGB or RGBA sequence, which should be avoided a
s value-mapping will have precedence in case its length matches with *x* & *y*.  Please
use the *color* keyword-argument or provide a 2D array with a single row if you intend t
o specify the same RGB or RGBA value for all points.
  mtp.scatter(x_set[y_set==j,0],x_set[y_set==j,1],c=ListedColormap(('purple','green'))
(i),label=j)
```



In [ ]:

In [ ]:

Loading [MathJax]/extensions/Safe.js