In [1]:

```
import pandas as pd
df = pd.read_csv("salaries.csv")
df.head()
```

Out[1]:

	company	job	degree	salary_more_than_100k
0	google	sales executive	bachelors	0
1	google	sales executive	masters	0
2	google	business manager	bachelors	1
3	google	business manager	masters	1
4	google	computer programmer	bachelors	0

In [2]:

```
input_data = df.drop('salary_more_than_100k',axis=1)
target=df['salary_more_than_100k']
```

In [3]:

```
target.head()
```

Out[3]:

```
0    0
1    0
2    1
3    1
4    0
Name: salary_more_than_100k, dtype: int64
```

In [5]:

```
from sklearn.preprocessing import LabelEncoder
company_LE=LabelEncoder()
job_LE=LabelEncoder()
degree_LE=LabelEncoder()
```

In [9]:

```
input_data['company_n'] = company_LE.fit_transform(input_data['company'])
input_data['job_n'] = job_LE.fit_transform(input_data['job'])
input_data['degree_n'] = degree_LE.fit_transform(input_data['degree'])
input_data.head()
```

Out[9]:

	company	job	degree	company_n	job_n	degree_n
0	google	sales executive	bachelors	1	2	0
1	google	sales executive	masters	1	2	1
2	google	business manager	bachelors	1	0	0
3	google	business manager	masters	1	0	1
4	google	computer programmer	bachelors	1	1	0

In [10]:

```
input_data.company.unique()
```

Out[10]:

```
array(['google', 'walmart', 'facebook'], dtype=object)
```

In [11]:
```
input_data.company_n.unique()
```

Out[11]:
```
array([1, 2, 0])
```

In [12]:
```
input_data
```

Out[12]:

	company	job	degree	company_n	job_n	degree_n
0	google	sales executive	bachelors	1	2	0
1	google	sales executive	masters	1	2	1
2	google	business manager	bachelors	1	0	0
3	google	business manager	masters	1	0	1
4	google	computer programmer	bachelors	1	1	0
5	google	computer programmer	masters	1	1	1
6	walmart	sales executive	masters	2	2	1
7	walmart	computer programmer	bachelors	2	1	0
8	walmart	business manager	bachelors	2	0	0
9	walmart	business manager	masters	2	0	1
10	facebook	sales executive	bachelors	0	2	0
11	facebook	sales executive	masters	0	2	1
12	facebook	business manager	bachelors	0	0	0
13	facebook	business manager	masters	0	0	1
14	facebook	computer programmer	bachelors	0	1	0
15	facebook	computer programmer	masters	0	1	1

In [14]:
```
input_data_n = input_data.drop(['company','job','degree'],axis=1)
input_data_n.head()
```

Out[14]:

	company_n	job_n	degree_n
0	1	2	0
1	1	2	1
2	1	0	0
3	1	0	1
4	1	1	0

In [15]:
```
from sklearn.model_selection import train_test_split
x_train,x_test,y_train,y_test = train_test_split(input_data_n,target,test_size=0.
```

In [25]:

```
from sklearn import tree
model = tree.DecisionTreeClassifier()
model.fit(x_train,y_train)
```

Out[25]:

```
▾ DecisionTreeClassifier

DecisionTreeClassifier()
```

In [17]:

```
len(x_train)
```

Out[17]:

```
12
```

In [18]:

```
len(y_train)
```

Out[18]:

```
12
```

In [26]:

```
model.score(x_train,y_train)
```

Out[26]:

```
1.0
```

In [27]:

```
model.score(x_test,y_test)
```

Out[27]:

```
0.75
```

In [28]:

```
y_pred = mode.predict(x_test)
from sklearn.metrics import confusion_matrix
confusion_matrix(y_test,y_pred)
```

Out[28]:

```
array([[1, 0],
       [1, 2]], dtype=int64)
```

In [29]:

```
#if salary of Google, Computer Engineer, Bachelor Degree
model.predict([[1,1,1]])
```

```
C:\Users\DELL\anaconda3\lib\site-packages\sklearn\base.py:420: UserWarning: X d
oes not have valid feature names, but DecisionTreeClassifier was fitted with fe
ature names
  warnings.warn(
```

Out[29]:

```
array([1], dtype=int64)
```

In [30]:

```
model.predict([[1,1,0]])
```

```
C:\Users\DELL\anaconda3\lib\site-packages\sklearn\base.py:420: UserWarning: X d
oes not have valid feature names, but DecisionTreeClassifier was fitted with fe
ature names
  warnings.warn(
```

Out[30]:

```
array([0], dtype=int64)
```

In [31]:

```
model.classes_
```

Out[31]:

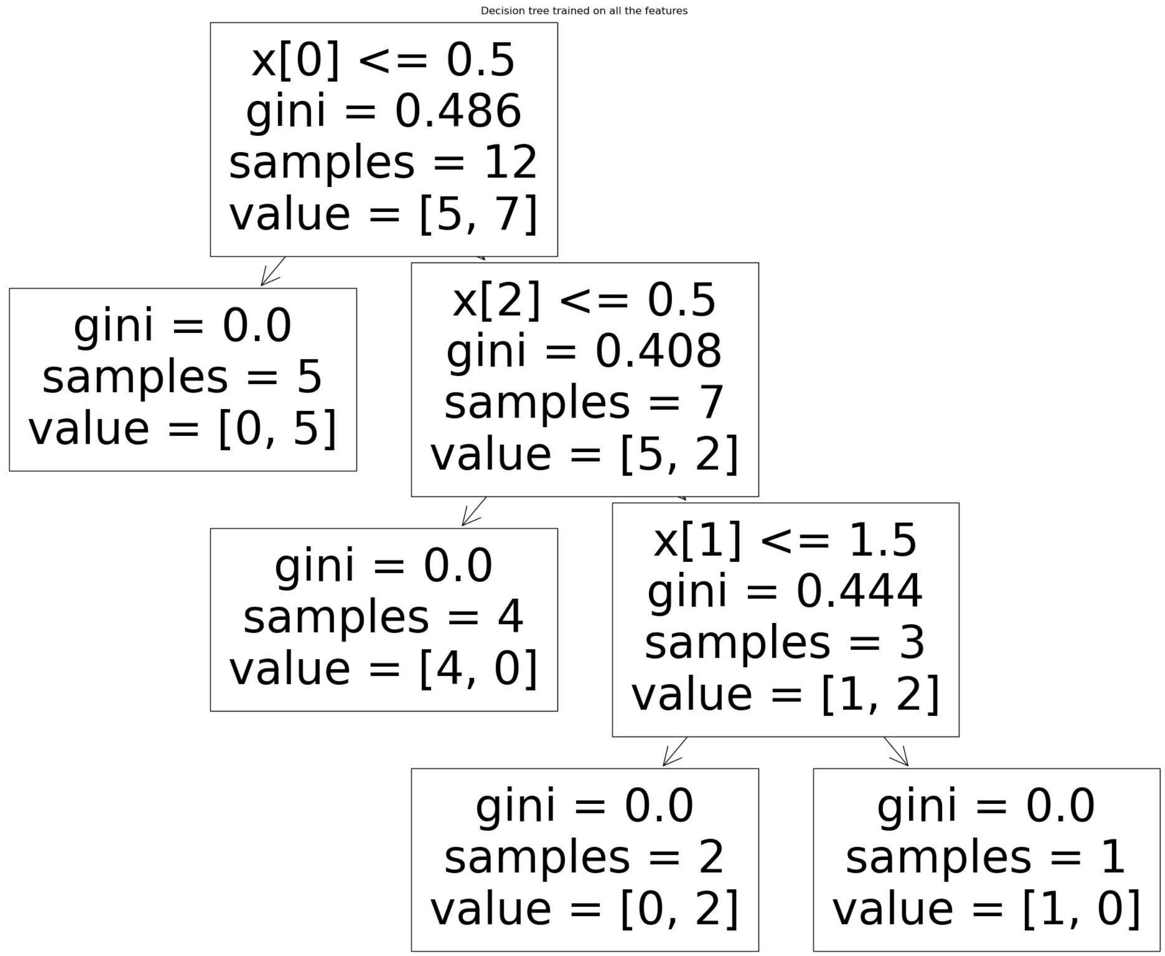
```
array([0, 1], dtype=int64)
```

In [32]:

```
import matplotlib.pyplot as plt
fig = plt.figure(figsize=(25,20))
tree.plot_tree(model)
plt.title(f'Decision tree trained on all the features')
plt.show
```

Out[32]:

```
<function matplotlib.pyplot.show(close=None, block=None)>
```



In [ ]: