Usama Arif Roll no 14

Question 1 : drawing a star pattern

In [53]:
```
for i in range(1,5):
    print('*'*i)
    i=i+1
for j in range(5):
    print('*'*i)
    i=i-1

```

```
*
**
***
****
*****
****
***
**
*
```

Question 2:

In [104]:
```
Life_data={
    'years':[1930,1940,1950,1965,1973,1982,1987,1992,2010],
    'Life_expectancy':[59.7,62.9,70.2,69.2,71.4,74.5,75,75.7,78.7]

}
df1=pd.DataFrame(Life_data)
y=df1['years']
x=df1['Life_expectancy']
```

a===>

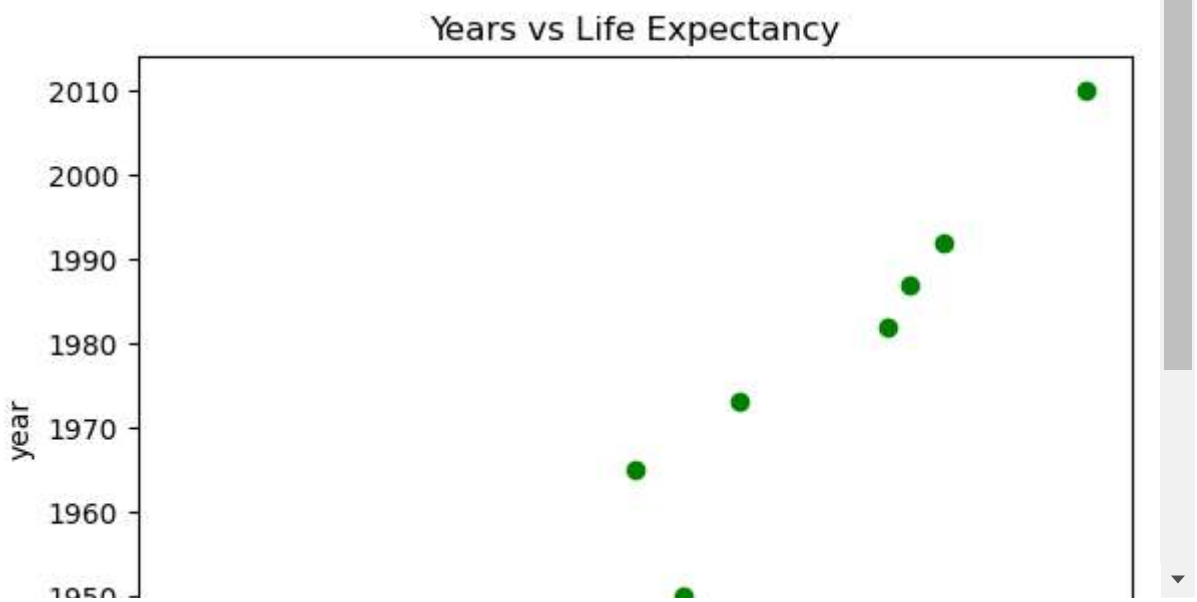
years should be the independent varibale stored 'in' x and y dependent

b plotting the scatter plot

In [95]:
```
import matplotlib.pyplot as plt

plt.scatter(x,y,color='g')
plt.title('Years vs Life Expectancy')
plt.xlabel('Age expectancy')
plt.ylabel('year')
```

Out[95]: Text(0, 0.5, 'year')



c linear regression model

In [97]:
```
from sklearn.linear_model import LinearRegression
from sklearn.model_selection import train_test_split
from sklearn.metrics import confusion_matrix,accuracy_score
```

In [103]:
```
model=LinearRegression()
x_train,x_test,y_train,y_test=train_test_split(x,y,test_size=0.2)

```

Question 3:

In [67]:
```
data = {
    'names': ['Usama Arif', 'Azlan', 'Ali Tahir', 'faiz Raza'],
    'Roll_No':[6, 2, 9, 34]
}

names = data['names']
Roll_No=data['Roll_No']
print('names of the students\n')
for name in names:
    print(name)
print('\n')
print('rollno of the students \n')
for i in Roll_No:
    print(i)
```

```
names of the students

Usama Arif
Azlan
Ali Tahir
faiz Raza


rollno of the students

6
2
9
34
```

In [ ]:
```

```

adding a new key value pair in dictionary

In [39]:
```
data = {
    'names': ['Usama Arif', 'Azlan', 'Ali Tahir', 'faiz Raza'],
    'Roll_No': [6, 2, 9, 34]
        }


data['grades'] = ['A', 'B', 'C', 'D']
for key, value in data.items():
    print(key, ':', value)

```

```
names : ['Usama Arif', 'Azlan', 'Ali Tahir', 'faiz Raza']
Roll_No : [6, 2, 9, 34]
grades : ['A', 'B', 'C', 'D']
```

deleting a particular student's record

In [44]:
```
data = {
    'names': ['Usama Arif', 'Azlan', 'Ali Tahir', 'faiz Raza'],
    'Roll_No': [6, 2, 9, 34]
}

del data['names'][3]
del data['Roll_No'][3]

for key, value in data.items():
    print(key, ':', value)

```

```
names : ['Usama Arif', 'Azlan', 'Ali Tahir']
Roll_No : [6, 2, 9]
```

modifying the name of an existing student

In [50]:
```
data = {
    'names': ['Usama Arif', 'Azlan', 'Ali Tahir', 'faiz Raza'],
    'Roll_No': [6, 2, 9, 34]
}

data['names'][1]='Muhammad Azlan'
data['Roll_No'][1]=4

for key, value in data.items():
    print(key, ':', value)
```

```
names : ['Usama Arif', 'Muhammad Azlan', 'Ali Tahir', 'faiz Raza']
Roll_No : [6, 4, 9, 34]
```

Question 4

a:pandas programm to first three lines

In [73]:
```
import pandas as pd
exam_data={
    'name':['Anatasia','Dima','Katherine','James','Emily','Michael','Matth
    'score':[12.5,9,16.5,'np.na',9,20,14.5,'np.nan',9,19],
    'attempts':[1,3,2,3,2,3,1,1,2,1],
    'qualify':['yes','no','yes','no','no','yes','yes','no','no','yes'],
    'labels':['a','b','c','d','e','f','g','h','i','j']
}
df=pd.DataFrame(exam_data)
df
```

Out[73]:

	name	score	attempts	qualify	labels
0	Anatasia	12.5	1	yes	a
1	Dima	9	3	no	b
2	Katherine	16.5	2	yes	c
3	James	np.na	3	no	d
4	Emily	9	2	no	e
5	Michael	20	3	yes	f
6	Matthew	14.5	1	yes	g
7	Laura	np.nan	1	no	h
8	Kevin	9	2	no	i
9	Jonas	19	1	yes	j

to get first three rows

In [74]:
```
df.head(3)
```

Out[74]:

	name	score	attempts	qualify	labels
0	Anatasia	12.5	1	yes	a
1	Dima	9	3	no	b
2	Katherine	16.5	2	yes	c

In [75]:
```
#we can access first three lines by iloc function
three_rows=df.iloc[0:3,]
```

In [76]:
```
three_rows
```

Out[76]:

	name	score	attempts	qualify	labels
0	Anatasia	12.5	1	yes	a
1	Dima	9	3	no	b
2	Katherine	16.5	2	yes	c

In [ ]:
```
1
```