How can I get poisson probabilities in Stata?

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Poisson probabilities can be obtained in Stata by using the "poisson" command, which calculates the probability of a given number of events occurring within a specified time period. This command requires the user to input the event rate and the desired number of events, and it will provide the corresponding probability value. Additionally, Stata also offers the option to graph the Poisson probability distribution, providing a visual representation of the likelihood of different event counts. This feature can be accessed by using the "poisson graph" command. Overall, Stata offers a simple and efficient method for obtaining Poisson probabilities, making it a useful tool for statistical analysis and decision-making.

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There is an ATS developed program called pprob that will generate a table of poisson probabilities. You can install
pprob over the internet by typing search nbvargr (see How can I use the search command to search for programs and get additional help? for more information about using
search).
Note: pprob is a program called by nbvargr.

Now, let's try the program. First, let's generate a table with a lambda (the mean of a poisson distribution) of 2 and then a
table with a lambda of 2.7. In both examples the number of categories will run from 0 to 10.

```
pprob, mean(2) n(10)

Poisson Probabilities for lambda = 2

+-----------------------------+
| k pprob pcum |
|-----------------------------|
1. | 0 0.13533528 0.13533528 |
2. | 1 0.27067056 0.40600586 |
3. | 2 0.27067056 0.67667639 |
4. | 3 0.18044704 0.85712343 |
5. | 4 0.09022352 0.94734699 |
|-----------------------------|
6. | 5 0.03608941 0.98343641 |
7. | 6 0.01202980 0.99546617 |
8. | 7 0.00343709 0.99890327 |
9. | 8 0.00085927 0.99976254 |
10. | 9 0.00019095 0.99995351 |
|-----------------------------|
11. | 10 0.00003819 0.99999166 |
+-----------------------------+

pprob, mean(2.7) n(10)

Poisson Probabilities for lambda = 2.7
```

```
+-----------------------------+
| k pprob pcum |
|-----------------------------|
1. | 0 0.06720551 0.06720551 |
2. | 1 0.18145488 0.24866039 |
3. | 2 0.24496409 0.49362448 |
4. | 3 0.22046769 0.71409220 |
5. | 4 0.14881569 0.86290789 |
|-----------------------------|
6. | 5 0.08036047 0.94326836 |
7. | 6 0.03616221 0.97943056 |
8. | 7 0.01394828 0.99337882 |
9. | 8 0.00470755 0.99808639 |
10. | 9 0.00141226 0.99949867 |
|-----------------------------|
11. | 10 0.00038131 0.99987996 |
+-----------------------------+
```