
# CALCUPROB
## An on-line interactive calculator of probabilities

Antonio Fernández Morales
Universidad de Málaga, 2009

INDEX

# 1. Presentation

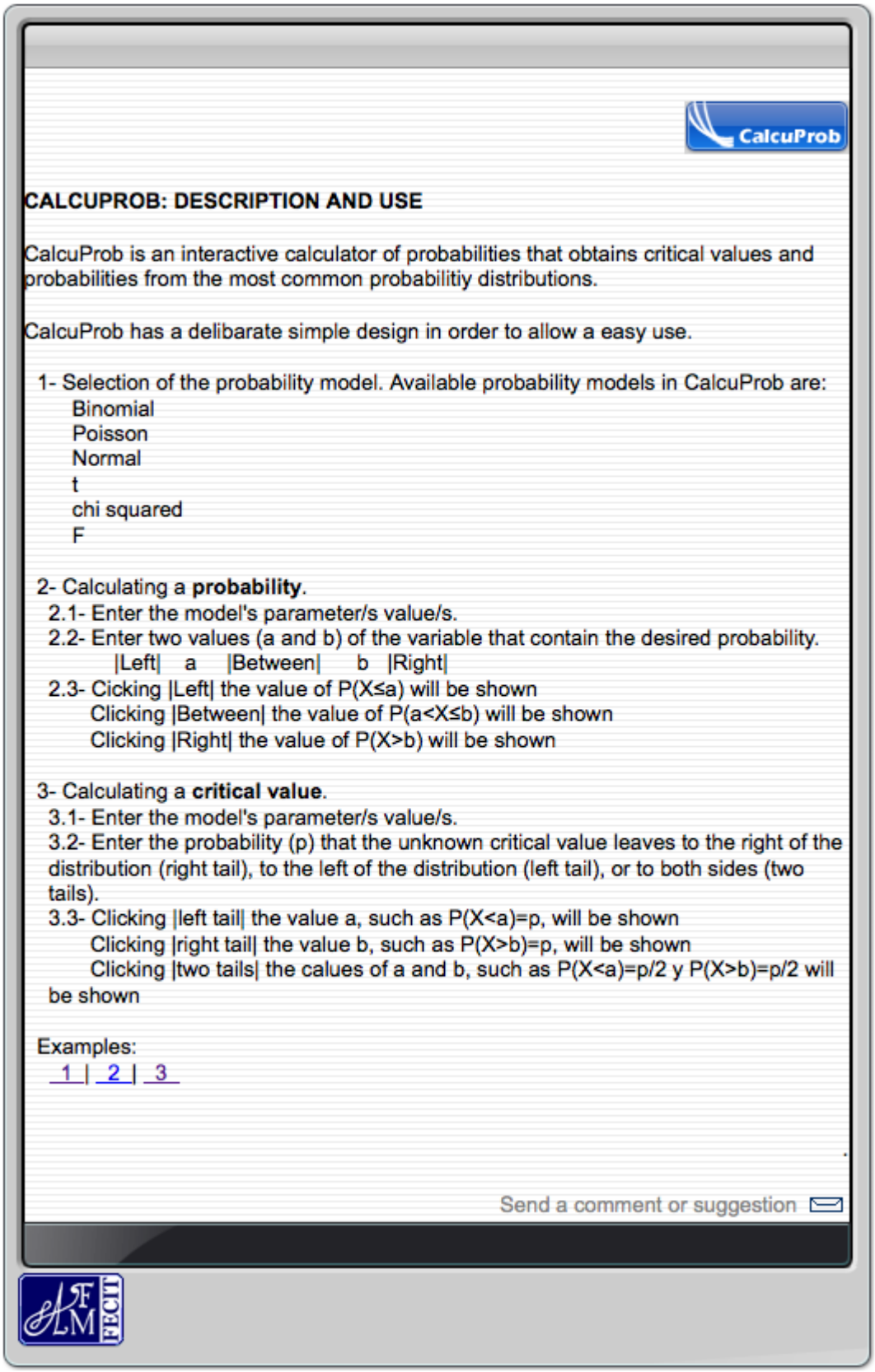
CalcuProb is an interactive open access on-line calculator for calculating critical values and probabilities from the most common probability distribution models (binomial, Poisson, normal, $\chi^2$ -chi-squared-, t and F). It has been designed and programmed using the standard algorithms for these models and compiled into a Java applet, embedded in a web page. It is a very useful didactic tool for lectures, as well as for the development of projects and academic activities. It makes unnecessary the use of statistical tables and it can be loaded in the computer screen along with other applications and programs, consuming minimum resources, since it has been designed in the form of a Java applet.

The intended users of CalcuProb are students of quantitative courses in the degrees of Economics, Business Administration, Finance and Accounting, as well as any other who require finding probabilities and critical values of the most common distribution models of random variables.

CalcuProb can be accessed via the following link:

http://webpersonal.uma.es/~afdez/calcuprobe/

## 2. Description and use of CalcuProb



CalcuProb

**CALCUPROB: DESCRIPTION AND USE**

CalcuProb is an interactive calculator of probabilities that obtains critical values and probabilities from the most common probabilitiy distributions.

CalcuProb has a delibarate simple design in order to allow a easy use.

1- Selection of the probability model. Available probability models in CalcuProb are:
- Binomial
- Poisson
- Normal
- t
- chi squared
- F

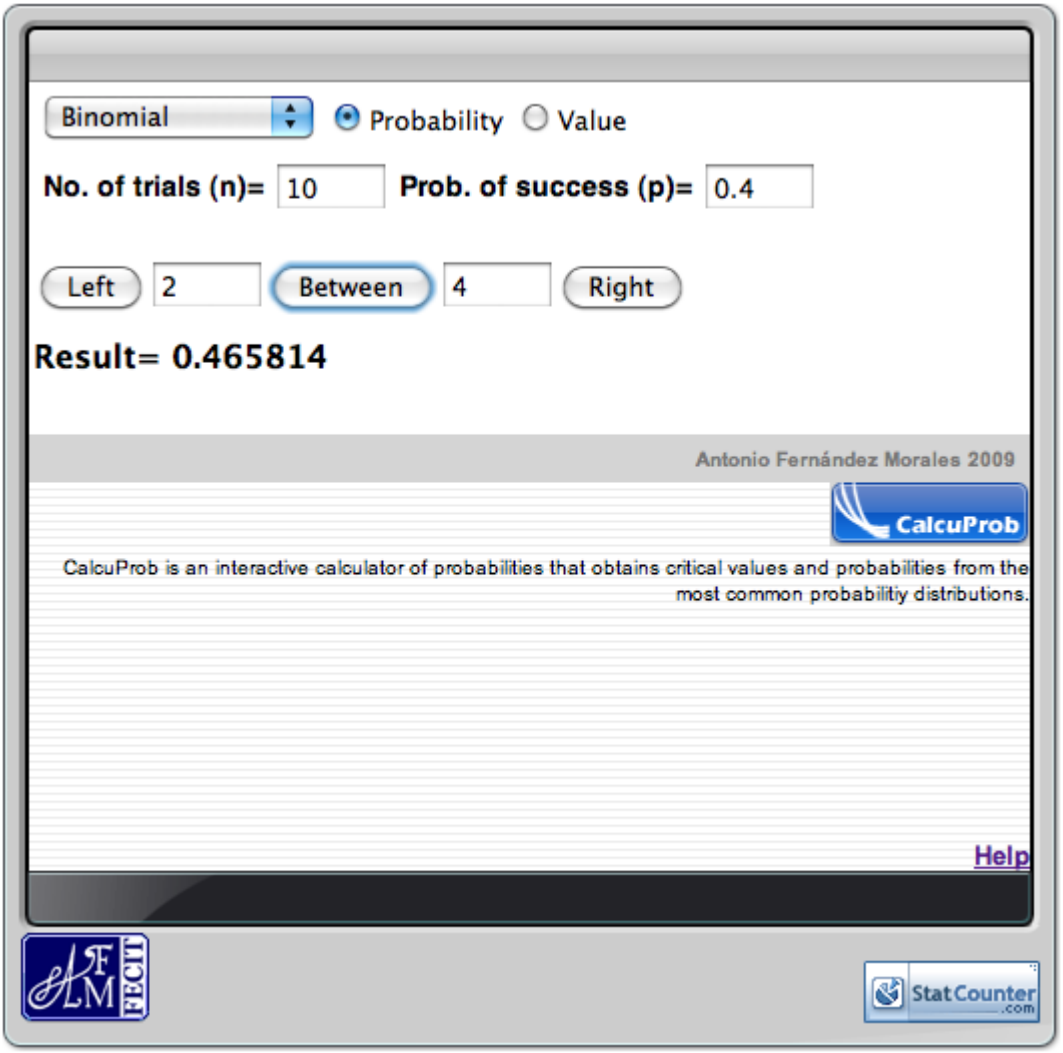
2- Calculating a **probability**.
- 2.1- Enter the model's parameter/s value/s.
- 2.2- Enter two values (a and b) of the variable that contain the desired probability.
  |Left| a |Between| b |Right|
- 2.3- Cicking |Left| the value of P(X≤a) will be shown
  Clicking |Between| the value of P(a<X≤b) will be shown
  Clicking |Right| the value of P(X>b) will be shown

3- Calculating a **critical value**.
- 3.1- Enter the model's parameter/s value/s.
- 3.2- Enter the probability (p) that the unknown critical value leaves to the right of the distribution (right tail), to the left of the distribution (left tail), or to both sides (two tails).
- 3.3- Clicking |left tail| the value a, such as P(X<a)=p, will be shown
  Clicking |right tail| the value b, such as P(X>b)=p, will be shown
  Clicking |two tails| the calues of a and b, such as P(X<a)=p/2 y P(X>b)=p/2 will be shown

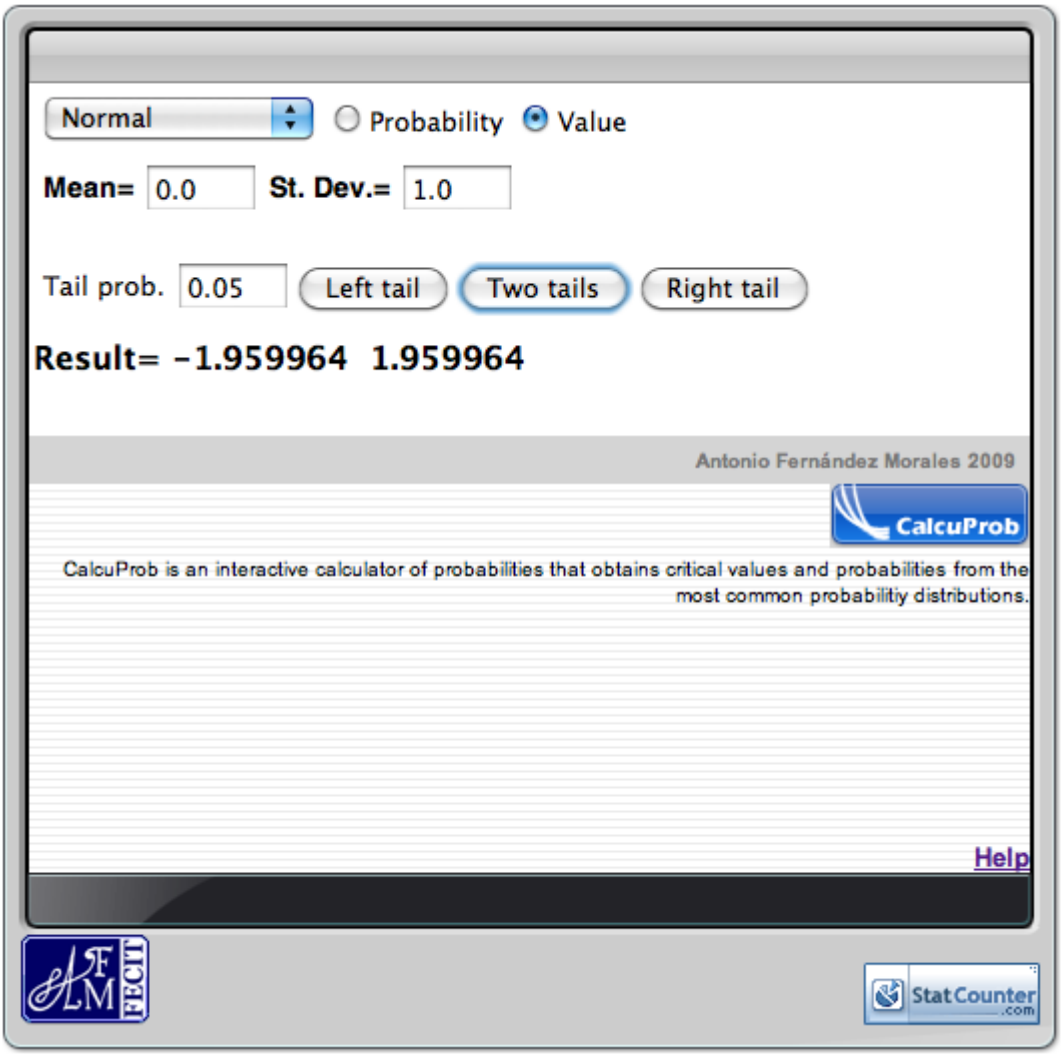
Examples:
1 | 2 | 3

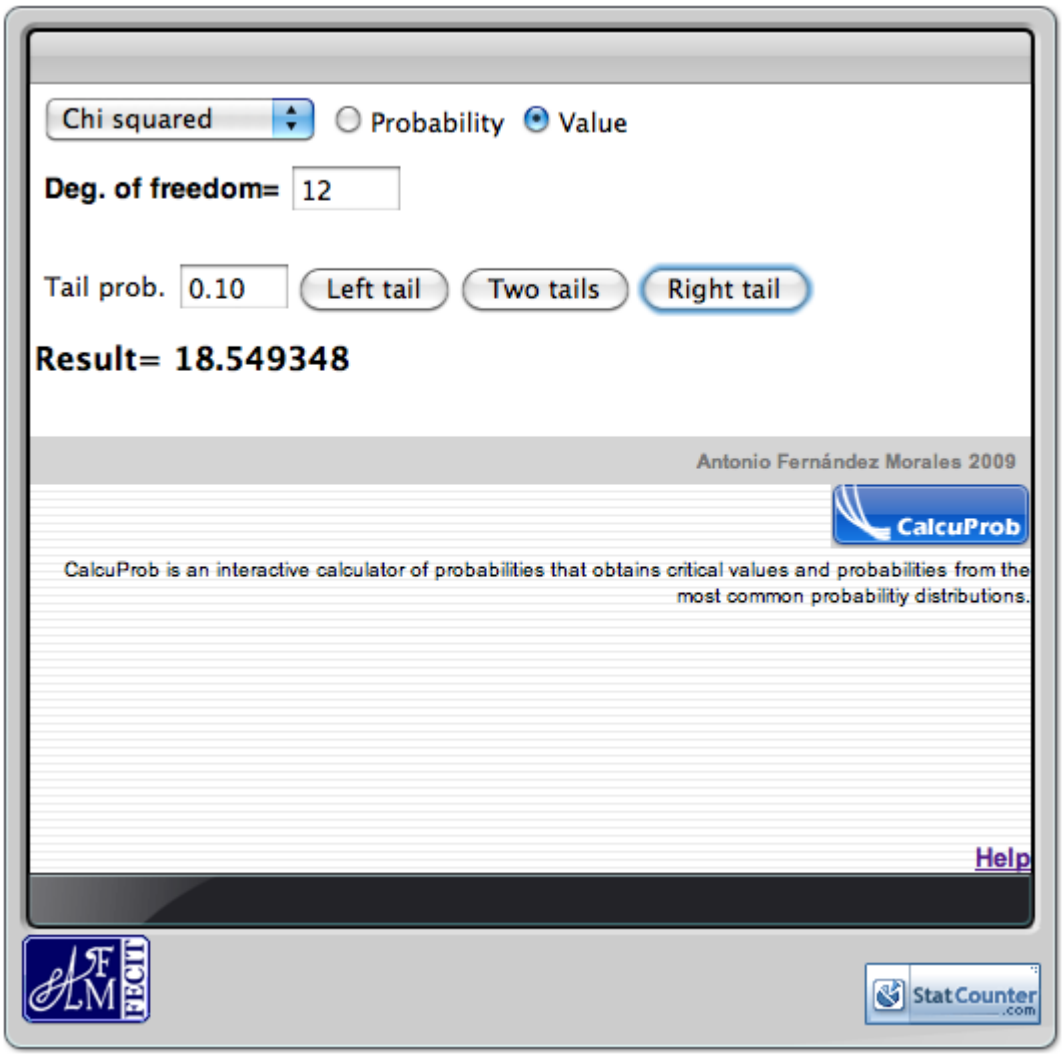
Send a comment or suggestion

## 3. Example: Finding a probability



## 4. Examples: Finding critical values




Chi squared
Probability
Value
Deg. of freedom= 12
Tail prob. 0.10
Left tail
Two tails
Right tail
Result= 18.549348
Antonio Fernández Morales 2009
CalcuProb
CalcuProb is an interactive calculator of probabilities that obtains critical values and probabilities from the most common probabilitiy distributions.
Help
StatCounter