



CALCUPROB
An on-line interactive
calculator of probabilities

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I. Presentation

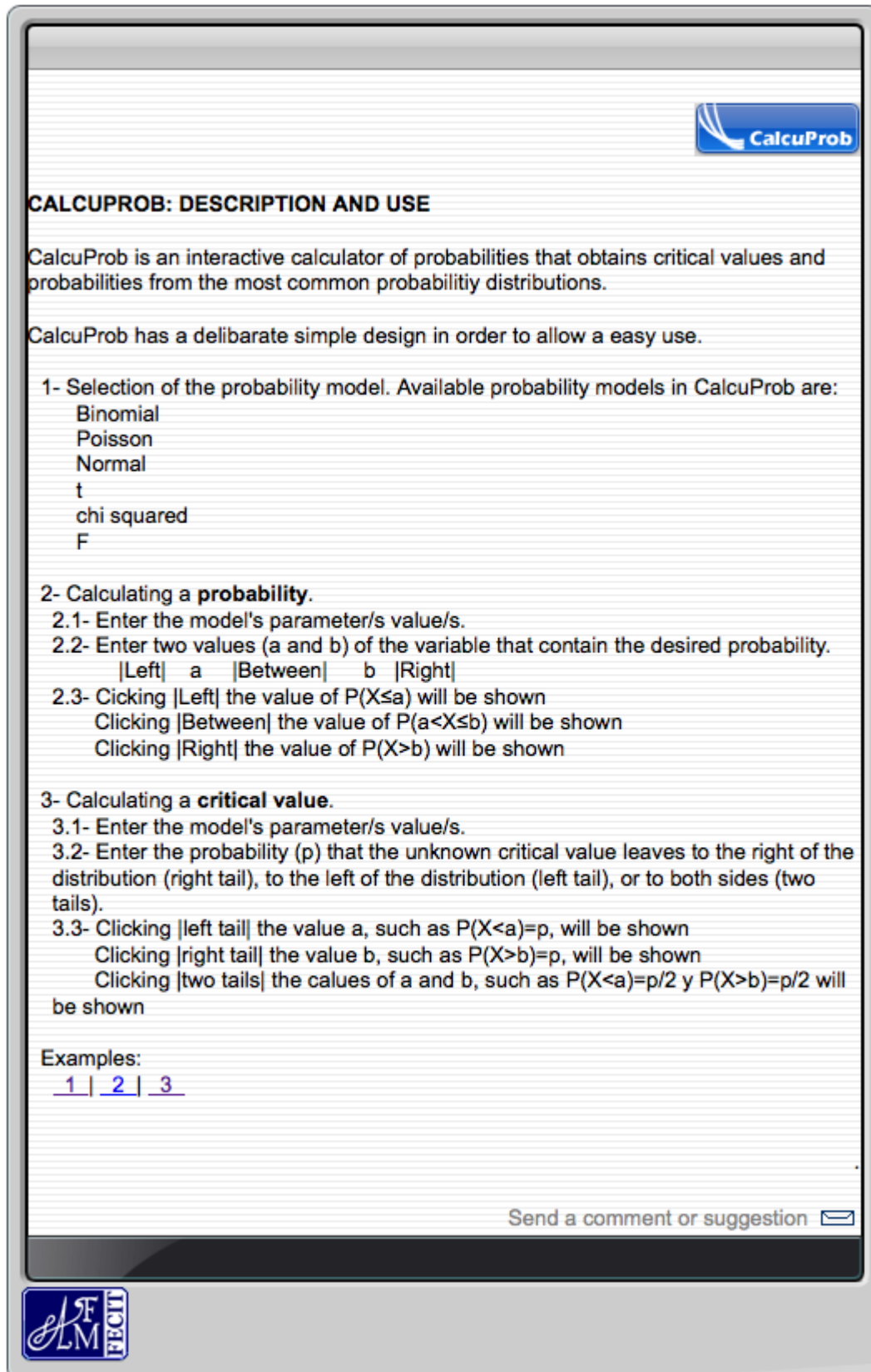
CalcuProb is an interactive open access on-line calculator for calculating critical values and probabilities from the most common probability distribution models (binomial, Poisson, normal, χ^2 -chi-squared-, t and F). It has been designed and programmed using the standard algorithms for these models 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: DESCRIPTION AND USE


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

CalcuProb has a deliberate 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 $P(X \leq a)$ will be shown
Clicking |Between| the value of $P(a < X \leq b)$ 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

The image shows a screenshot of a web-based calculator interface for binomial distributions. At the top, there is a dropdown menu set to "Binomial" and two radio buttons: "Probability" (which is selected) and "Value". Below this, there are two input fields: "No. of trials (n)=" with the value "10" and "Prob. of success (p)=" with the value "0.4". Underneath, there are three buttons: "Left", "Between" (which is highlighted with a blue border), and "Right". Each button has a corresponding input field: "Left" has "2", "Between" has "4", and "Right" is empty. The result of the calculation is displayed as "Result= 0.465814".

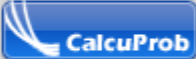
Binomial Probability Value

No. of trials (n)= 10 Prob. of success (p)= 0.4

Left 2 **Between** 4 Right



Result= 0.465814

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 CalcuProb

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

[Help](#)

4. Examples: Finding critical values



The screenshot shows the CalcuProb online calculator interface. At the top, there is a dropdown menu set to "Normal" and two radio buttons: "Probability" (unselected) and "Value" (selected). Below this, there are input fields for "Mean=" (0.0) and "St. Dev.=" (1.0). Underneath, there is a "Tail prob." field (0.05) and three buttons: "Left tail", "Two tails" (highlighted with a blue border), and "Right tail". The "Result=" field displays the critical values: **-1.959964 1.959964**.

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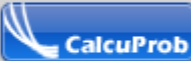
Chi squared Probability Value

Deg. of freedom=

Tail prob.

Result= 18.549348

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