

TI-82 PROGRAM THAT COMPUTES CUMULATIVE BINOMIAL PROBABILITIES

The TI-83 and TI-84 Plus have this function built-in as part of the DISTR menu. If you have a TI-82 or other calculator without this built-in program, you can write your own program as follows.

Select PRGM to get the program menu. Then select NEW to create a new program. You must first give a program name.

Comments, which should **not** be entered into the calculator, are set off by the symbol %.

NAME = BINOMCDF

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: 0 STO→ S           % 'STO→' is right above the 'ON' button. %
: Prompt N           % 'Prompt' is accessed via PRGM, I/O when you are writing
or editing a program. %
: Prompt P
: Prompt K
: For(R,0,K,1)       % 'For(' is accessed via PRGM, CTL when you are writing
or editing a program. %
: S + N nCr R*P^R * (1-P)^(N-R) STO→ S           % 'nCr' is found under MATH,
PRB (select 3). %
: End                % 'End' is accessed via PRGM, CTL when you are
writing or editing a program. %
: Disp S            % 'Disp' is accessed via PRGM, I/O when you are
writing or editing a program. %
```

If you want to make changes to your program, select PRGM, move to EDIT, and then select the number of the program you want to edit.

Let's use this program to compute the probability of fewer than 2 people surviving an infection of the Ebola virus among 10 independent cases of Ebola, if the probability of surviving is .10. This is Exercise 6.9d. Select the program, enter the sample size 10 when prompted for N, enter .10 when prompted for P, and enter 1 when prompted for K. This will compute $\Pr(K < 2) = \Pr(K \leq 1) = .7360989303$.