

The file p3\_exact (Maxima program)

```
kill(all);
binprob(n, p, k) := float(binomial(n,k)*p^k*(1-p)^(n-k));
bindist(n, p, lower, upper) :=
do(
  sum : 0,
  for i : lower step 1 thru upper do(
    term : binprob(n, p, i),
    sum : float(sum+term)), return(sum)
);
probl3c_answer :
  bindist(1200,1/4,290,310);
```

The output of the Maxima program p3\_exact

```
Maxima 5.38.1 http://maxima.sourceforge.net
using Lisp GNU Common Lisp (GCL) GCL 2.6.12
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Dedicated to the memory of William Schelter.
The function bug_report() provides bug reporting information.
(%i1) batch("p3_exact")

read and interpret file: #p/home/mate/exams/s19/maxima/81/exam81.2/p3_exact
(%i2) kill(all)
(%o0) done
(%i1) binprob(n,p,k):=float(binomial(n,k)*p^k*(1-p)^(n-k))
(%o1) binprob(n, p, k) := float(binomial(n, k) pk (1 - p)n - k)
(%i2) bindist(n,p,lower,upper):=do
(sum:0,
  for i from lower thru upper do
    (term:binprob(n,p,i),sum:float(sum+term)),return(sum))
(%o2) bindist(n, p, lower, upper) := do (sum : 0,
for i from lower thru upper do (term : binprob(n, p, i),
sum : float(sum + term)), return(sum))
(%i3) probl3c_answer:bindist(1200,1/4,290,310)
(%o3) 0.5160583906382258
(%o3) p3_exact
```