

The file pval1 (Maxima program)

```
kill(all);
load(distrib);
theta : 2;
sigma : .04;
x : 2.1;
standnorm : abs(x-theta)/sigma;
confidence_level : float(cdf_normal(standnorm, 0, 1));
pvalue_2sided : 2*(1-confidence_level);
pvalue_1sided : 1-confidence_level;
```

The output of the Maxima program pval1

```
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("pval1")

read and interpret file: #p/home/mate/exams/s19/maxima/81/pvalue/pval1
(%i2) kill(all)
(%o0) done
(%i1) load(distrib)
(%o1) /usr/share/maxima/5.38.1/share/distrib/distrib.mac
(%i2) theta:2
(%o2) 2
(%i3) sigma:0.04
(%o3) 0.04
(%i4) x:2.1
(%o4) 2.1
(%i5) standnorm:abs(x-theta)/sigma
(%o5) 2.5000000000000002
(%i6) confidence_level:float(cdf_normal(standnorm,0,1))
(%o6) 0.9937903346742238
(%i7) pvalue_2sided:2*(1-confidence_level)
(%o7) 0.01241933065155231
(%i8) pvalue_1sided:1-confidence_level
(%o8) 0.006209665325776159
(%o8) pval1
```