

Aufgabe 7.5

```
log(x).taylor(x, 1, 7)
```

$$\frac{1}{7}(x-1)^7 - \frac{1}{6}(x-1)^6 + \frac{1}{5}(x-1)^5 - \frac{1}{4}(x-1)^4 + \frac{1}{3}(x-1)^3 - \frac{1}{2}(x-1)^2 + x - 1$$

```
for i in range(2,160):
    T(x)=log(x).taylor(x, 1, i)
    print T(2.)
```

WARNING: Output truncated!
[full_output.txt](#)

```
0.5000000000000000
0.8333333333333333
0.5833333333333333
0.7833333333333333
0.6166666666666667
0.759523809523809
0.634523809523809
0.745634920634921
0.645634920634921
0.736544011544012
0.653210678210678
0.730133755133755
0.658705183705184
0.725371850371850
0.662871850371850
0.721695379783615
0.666139824228060
0.718771403175428
0.668771403175428
0.716390450794476
0.670935905339930
0.714414166209495
0.672747499542829
0.712747499542829
0.674285961081290
0.711322998118327
0.675608712404042
0.710091471024731
0.676758137691398
0.709016202207527
0.677766202207527
0.708069232510557
0.678657467804675
0.707228896376103
```

0.679451118598326
0.706478145625353
0.680162356151669
0.705803381792694
0.680803381792694
0.705193625695133
0.681384101885609
0.704639915839098
0.681912643111825
0.704134865334047
0.682395734899265
0.703672330643945
0.682838997310612
0.703247160575918
0.683247160575918
0.702855003713173
0.683624234482404
0.702492159010706
0.683973640492187
0.702155458674005
0.684298315816863
0.701842175465985
0.684600796155641
0.701549948698013
0.684883282031347

...

0.688172179310195
0.698073169409205
0.688269247840578
0.697977985704655
0.688362601089271
0.697886410613080
0.688452448348929
0.697798242741453
0.688538983482193
0.697713295408799
0.688622386317890
0.697631395326899
0.688702823898327
0.697552381420451
0.688780451595890
0.697476103769803
0.688855414114631
0.697402422661639
0.688927846390453
0.697331207734990
0.688997874401657
0.697262337211574
0.689065615900099

0.697195697200912
0.689131181071880
0.697131181071880
0.689194673135372
0.697068688883403
0.689256188883403
0.697008126867899
0.689315819175592
0.696949406961851
0.689373649386094
0.696892446378575
0.689429759811411
0.696837167218818
0.689484226042347
0.696783496115340
0.689537119303746
0.696731363908063
0.689588506765205
0.696680705346766
0.689638451825639
0.696631458818646
0.689687014374202
0.696583566098339
0.689734251029846
0.696536972118282
0.689780215361525
0.696491624757498
0.689824958090832
0.696447474647123
0.689868527278702
0.696404474991120
0.689910968497614
0.696362581400839
0.689952324990583
0.696321751742175
0.689992637818125
0.696281945994225
[full_output.txt](#)

`log(2.)`

0.693147180559945