(%i1)
```
pi1[n]:=if n<2 then 0 elseif primep(n) then pi1[n-1]+1 else pi1[n-1];
```

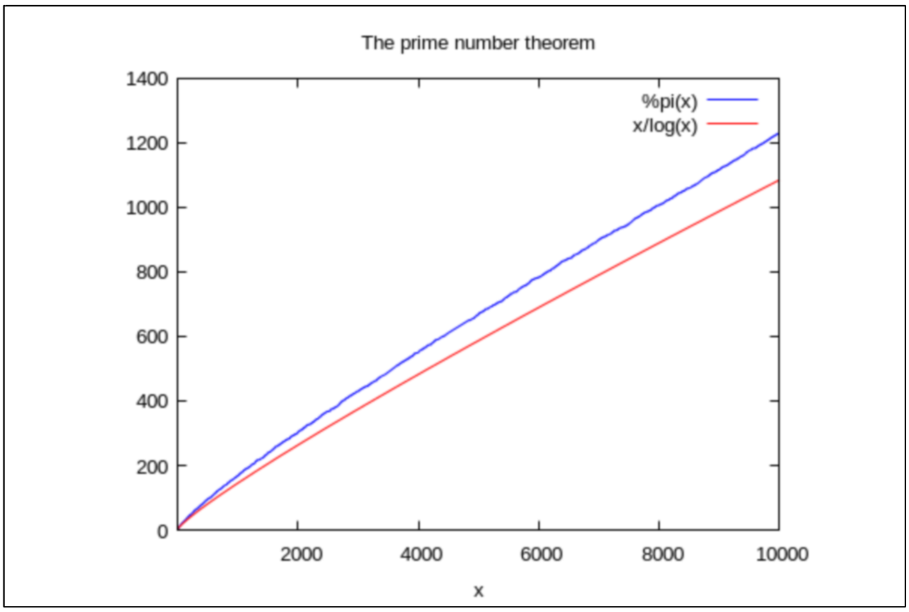
(%o1) $pi1_n$:= if $n<2$ then 0 elseif primep(n) then $pi1_{n-1}+1$ else $pi1_{n-1}$

(%i2)
```
/* Define π(x) = the number of primes less than or equal to x */
pi(x):=if integerp(x) and primep(x) then pi1[x]-1/2 else pi1[floor(x)];
```

(%o2) pi(x):= if integerp(x) $\wedge$ primep(x) then $pi1_x-\frac{1}{2}$ else $pi1_{\mathrm{floor}(x)}$

(%i4)
```
/* The graphs of π(x) and x/log(x)
The prime number theorem shows that
π(x)/(x/log(x)) → 1 as x → ∞. */
wxplot2d([pi(x), x/log(x)],
    [x,1.5,10000], [xtics,2000],
    [legend,"π(x)","x/log(x)"],
[title,"The prime number theorem"]);
```

(%t4)



(%o4)