

# Basics

```
(%i3) %pi ;
      %e ;
      %i ;

(%o1)  π

(%o2)  %e

(%o3)  %i

(%i5) bfloat ( %pi ) ;
      %e , numer ;

(%o4)  3.141592653589793b0

(%o5)  2.718281828459045

(%i7) bfloat ( %pi ) , fpprec : 100 ;
      %e , bfloat , fpprec = 100 ;

(%o6)  3.141592653589793238462643383279502884197169399375105820974944592307816406286208998628034825342117068b0

(%o7)  2.718281828459045235360287471352662497757247093699959574966967627724076630353547594571382178525166427b0

(%i8) a : 10 ;

(%o8)  10

(%i9) b : 20 ;

(%o9)  20

(%i10) a + b ;

(%o10)  30

(%i11) V : m · s · k ;

(%o11)  kms

(%i12) V , m : 10 , s : 20 , k : 30 ;

(%o12)  6000

(%i13) V , m = 10 , s = 20 , k = 30 ;

(%o13)  6000

(%i14) z : ' a ^ 2 ;

(%o14)  a^2

(%i15) ev ( z ) ;

(%o15)  100

(%i16) f ( a ) := a ^ 2 ;

(%o16)  f(a) := a^2

(%i17) f ( 2 ) ;

(%o17)  4

(%i18) f ( a , b , c ) := a + b + c ;

(%o18)  f(a, b, c) := a + b + c

(%i19) f ( a , b , a + b ) ;

(%o19)  60

(%i20) f ( x ) := if x%2 = 0 then 3 · x / 2 else x + 1 ;

(%o20)  f(x) := if x%2 = 0 then  $\frac{3x}{2}$  else x + 1

(%i21) f ( 10 ) ;

(%o21)  11

(%i22) f ( 11 ) ;
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(%o22) 12

(%i23) f(12);

(%o23) 13

(%i24) for i: 0 while i <= 10 do ( print ( f(i) ) );

1234567891011

(%o24) done

(%i25) makelist ( f( x ) , x , 1 , 100 );

(%o25) [2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44,

(%i26) sin ( x ) + cos ( x );

(%o26) sin(x) + cos(x)

(%i27) %, x = 0 ; /*to get the last output we use %*/

(%o27) 1

(%i28) %o1 , numer ; /*to get a output from any line we use %oN*/

(%o28) 3.141592653589793

(%i29) %i26 , x = %pi ; /*to get a input from any line we use %iN*/

(%o29) -1
```