

# Mathematica OX server

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# 1 Mathematica

```

Mathematica  ox  ox_math .      mathematica.rr  load("mathematica.rr")$ .
mathematica.rr $(OpenXM_HOME)/lib/asir-contrib .
: ox_reset .

```

```

[258] load("mathematica.rr")$
m Version 19991113. mathematica.start, mathematica.tree_to_string, mathematica.n_Eigen
[259] mathematica.start();
ox_math has started.
ox_math: Portions copyright 2000 Wolfram Research, Inc.
See OpenXM/Copyright/Copyright.mathlink for details.
0
[260] mathematica.n_Eigenvalues([[1,2],[4,5]]);
[-0.464102,6.4641]

```

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## 1.1

### 1.1.1 mathematica.start

```

mathematica.start()
:: Localhost ox_math .

```

*return*

- Localhost ox\_math . ox\_math .
- Xm\_noX =1 , ox\_math debug window .
- M\_proc .

```

P = mathematica.start()
ox_launch

```

### 1.1.2 mathematica.tree\_to\_string

```

mathematica.tree_to_string(t)
:: ox_math Mathematica t asir .

```

*return*

*t*

- t ox\_math Mathematica .
- ox\_math Mathematica t asir .

- *t* asir, . *t*, , *m\_*, .
 

```

[267] mathematica.start();
0
[268] ox_execute_string(0,"Expand[(x-1)^2]");
0
[269] A=ox_pop_cmo(0);
[Plus,1,[Times,-2,x],[Power,x,2]]
[270] mathematica.tree_to_string(A);
(1)+((-2)*(x))+((x)^(2))
[271] eval_str(@);
x^2-2*x+1
[259] mathematica.tree_to_string(["List",1,2]);
[1 , 2]
[260] mathematica.tree_to_string(["Plus",2,3]);
(2)+(3)
[261] mathematica.tree_to_string(["Complex",2.3,4.55]);
mathematica.complex(2.3 , 4.55)
[362] mathematica.tree_to_string(["Plus",["Complex",1.2,3.5],1/2]);
(mathematica.complex(1.2 , 3.5))+(1/2)
[380] eval_str(@);
(1.7+3.5*i)

ox_pop_cmo, eval_str, mathematica.rtomstr

```

### 1.1.3 mathematica.rtomstr

```

mathematica.rtomstr(t)
:: t Mathematica .

```

*return*

*t*

- *t* Mathematica . , asir [, ] , Mathematica {, } . .
 

```

[259] mathematica.rtomstr([1,2,3]);
{1,2,3}
[260] mathematica.rtomstr([[1,x,x^2],[1,y,y^2]]);
{{1,x,x^2},{1,y,y^2}}
. mathematica.inverse(M) ox_math M . mathematica.inverse(M) r_tostr(M) asir
Mathematica ox_execute_string Mathematica .

def inverse(M) {
  P = 0;
  A = mathematica.rtomstr(M);
  ox_execute_string(P,"Inverse["+A+"]");
  B = ox_pop_cmo(B);
  C = mathematica.tree_to_string(B);
  return(eval_str(C));
}

```

```

[269] M=[[1,x,x^2],[1,y,y^2],[1,z,z^2]];
[[1,x,x^2],[1,y,y^2],[1,z,z^2]]
[270] A=mathematica.inverse(M)$
[271] red(A[0][0]);
(z*y)/(x^2+(-y-z)*x+z*y)

    ox_execute_string, ToExpression(Mathematica), mathematica.tree_to_
    string

```

# Index

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