

# Mathematica OX server

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Edition : auto generated by oxgentexi on 17 May 2025

# 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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Author of ox\_math: Katsuyoshi Ohara.

## 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

(Index is nonexistent)

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