POLYINTERP EXAMPLE

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> read polyinterp:
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> seq(i,i=0..6);
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$$0, 1, 2, 3, 4, 5, 6$$

```
> seq(.2*i*Pi,i=0..6);
```

$$0, .2\,\pi, .4\,\pi, .6\,\pi, .8\,\pi, 1.0\,\pi, 1.2\,\pi$$

```
> ["];
```

$$[0, .2\,\pi, .4\,\pi, .6\,\pi, .8\,\pi, 1.0\,\pi, 1.2\,\pi]$$

```
> map(x -> [x,sin(x)],");
```

$$[[0, 0], [.2\,\pi, \sin(.2\,\pi)], [.4\,\pi, \sin(.4\,\pi)], [.6\,\pi, \sin(.6\,\pi)],$$
$$[.8\,\pi, \sin(.8\,\pi)], [1.0\,\pi, \sin(1.0\,\pi)], [1.2\,\pi, \sin(1.2\,\pi)]]$$

```
> sin_list := evalf(");
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$$\mathit{sin\_list} := [[0, 0], [.6283185308, .5877852524],$$
$$[1.256637062, .9510565165],$$

$$[1.884955592, .9510565163],$$
$$[2.513274123, .5877852522],$$
$$[3.141592654, -.4102067615\ 10^{-9}],$$
$$[3.769911185, -.5877852529]]$$

> p := polyinterp(sin_list,’x’);

$$p := .99938790\, x - .1663084838\, x^3 + .00139080\, x^2$$
$$- .00305064\, x^4 + .011275605\, x^5 - .0011963788\, x^6$$

> plot({p,sin(x)},x=0..2*Pi,style=point);