

```

#Additional 4
>
> with(Groebner):
> with(PolynomialIdeals):
>
#(i)
> I:=<x^3+1>; IsPrime(I); IsMaximal(I);
      3
      I := <x  + 1>
      false
      false

>
#(ii)
> I:=<x^4+1>; IsPrime(I); IsMaximal(I);
      4
      I := <x  + 1>
      true
      true

>
#(iii)
> I:=<x^2+1,(variables={x,y})>; IsPrime(I); IsMaximal(I);
      2
      I := <x  + 1>
      true
      false

>
#(iv)
> I:=<x^2+1,y^2+1>; IsPrime(I); IsMaximal(I);
      2      2
      I := <x  + 1, y  + 1>
      false
      false

>
#(v)
> I:=<x^2+1,y^2>; IsPrime(I); IsMaximal(I);
      2      2
      I := <x  + 1, y  >
      false
      false

```