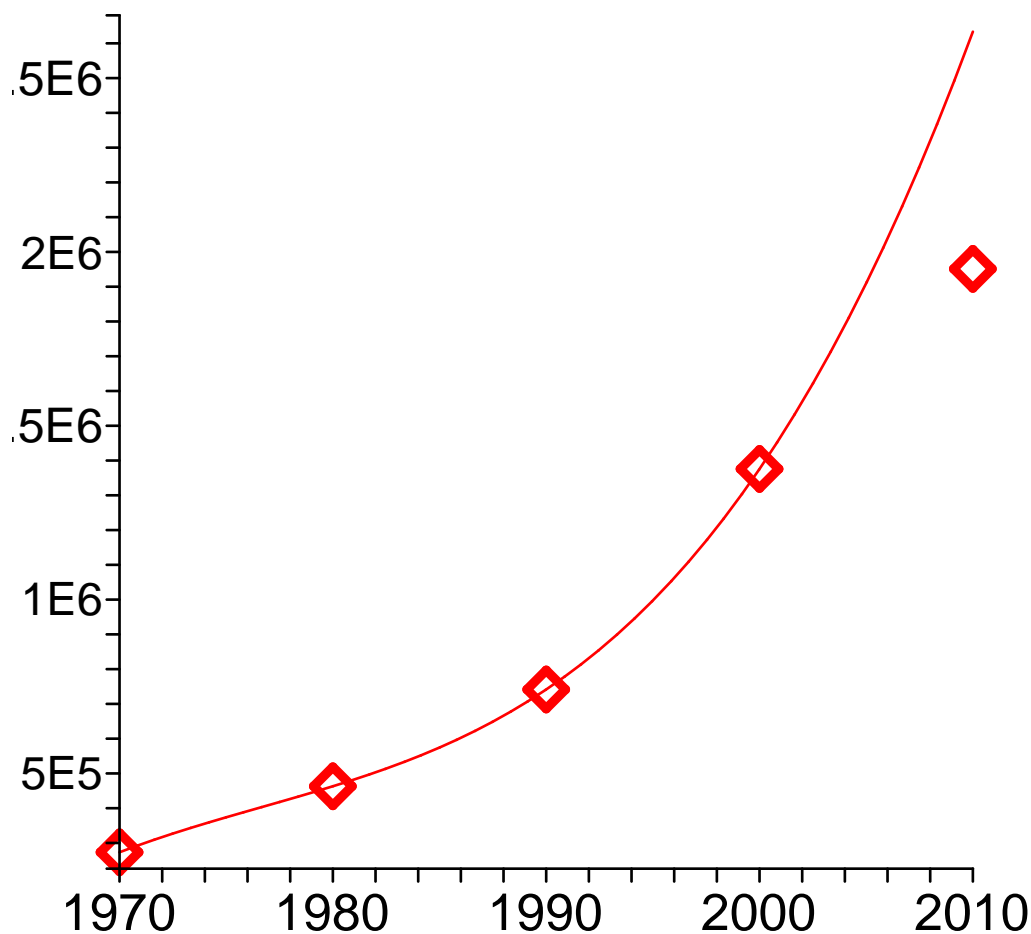


```

> restart;
> data:={ [1970,273288], [1980,463087], [1990, 741459], [2000, 1375765],
  [2010,1951269]};
data:= {[1970, 273288], [1980, 463087], [1990, 741459], [2000, 1375765], [2010, 1951269]}
> with(plots):
Warning, the name changecoords has been redefined
> P1:=plot(data,style=point,symbolsize=30,thickness=2):
> # Polynomial model from book with 4 paramters
p:=t->44560*t^3-89394*t^2+234633*t+273288;
      p:= t → 44560 t3 - 89394 t2 + 234633 t + 273288
> P2:=plot(p((t-1970)/10),t=1970..2010):
> display(P1,P2);

```



```

> # Logistic model based on exponential growth and carrying capacity
f:=x->L/(1+exp(-k*(x-x0)));

```

$$f := x \rightarrow \frac{L}{1 + e^{(-k(x - x_0))}}$$

```
> # The 3 parameters obtained by fitting the data
```

```
L := 3.00001e+06;
```

```
k := 0.0790773;
```

```
x0 := 2002.41;
```

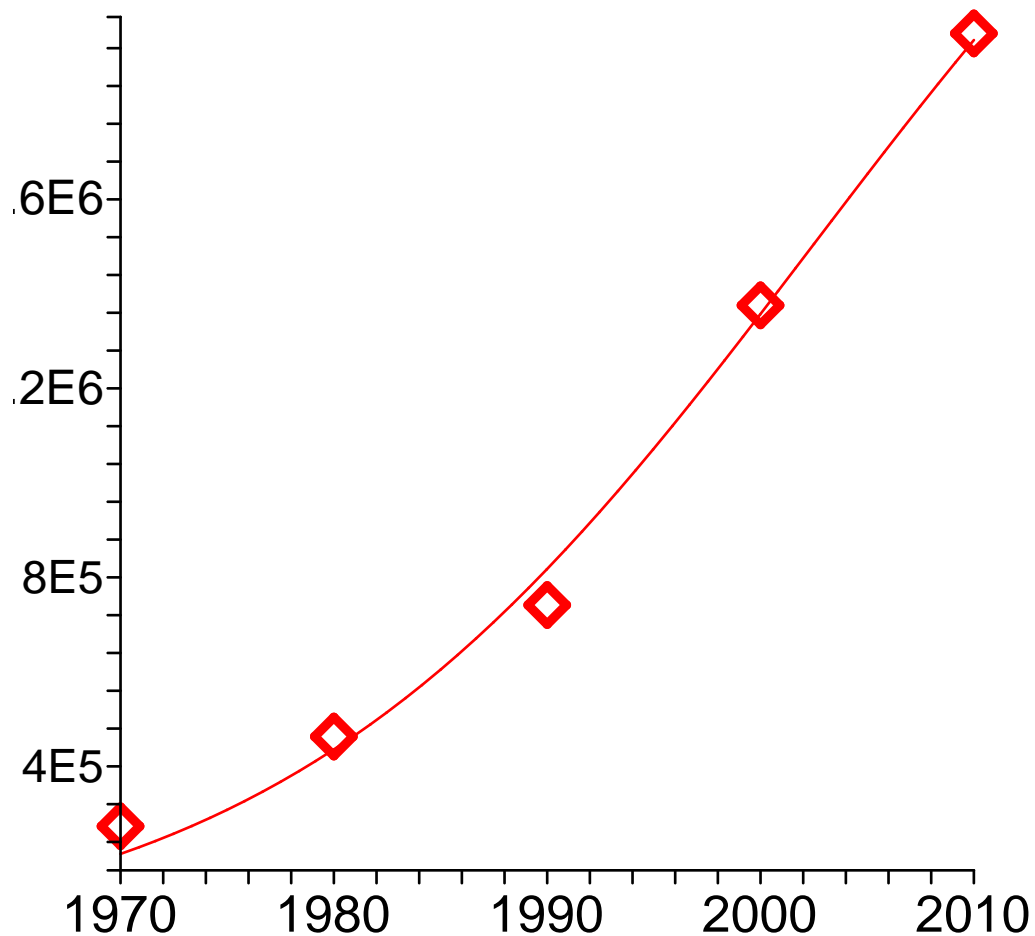
```
L := 3.00001 106
```

```
k := 0.0790773
```

```
x0 := 2002.41
```

```
> P3:=plot(f(t),t=1970..2010):
```

```
> display(P1,P3);
```



```
>
```