

## Q1：旧车价格

```
clc;clear;
```

```
% Q1. 旧车价格
```

```
x = [1 2 3 4 5 6 7 8 9 10];
```

```
y = [2615 1943 1494 1087 765 538 484 290 226 204];
```

```
% figure(1);plot(x,y,'o');
```

```
%用四阶多项式拟合
```

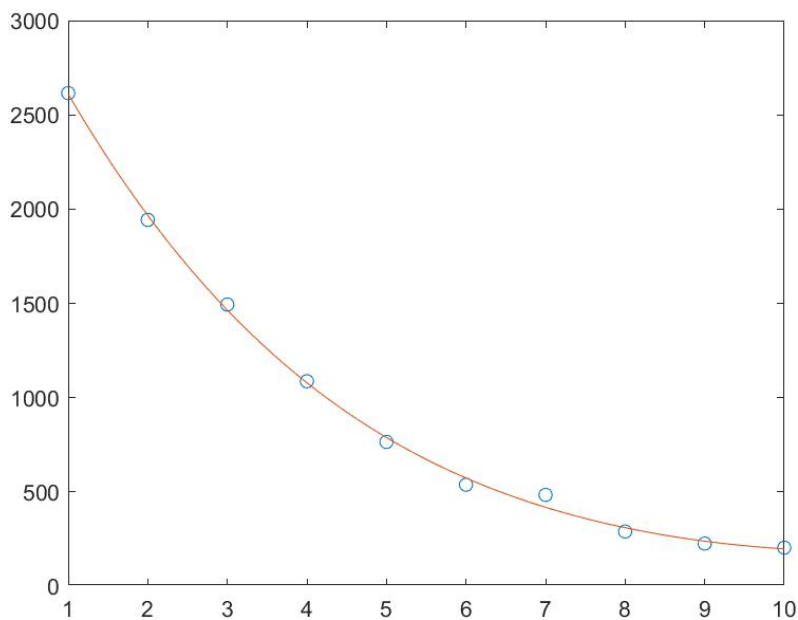
```
a = polyfit(x,y,4)
```

```
u = 1:0.1:10;
```

```
v = polyval(a,u);
```

```
figure(2);plot(x,y,'o',u,v,'-');
```

```
y1 = polyval(a,4.5)
```



```
a =
```

```
1.2573e-01 -5.4208e+00 1.0019e+02 -9.0815e+02 3.4233e+03
```

```
y4_5 =
```

```
9.2308e+02
```

## Q2: 经济增长模型

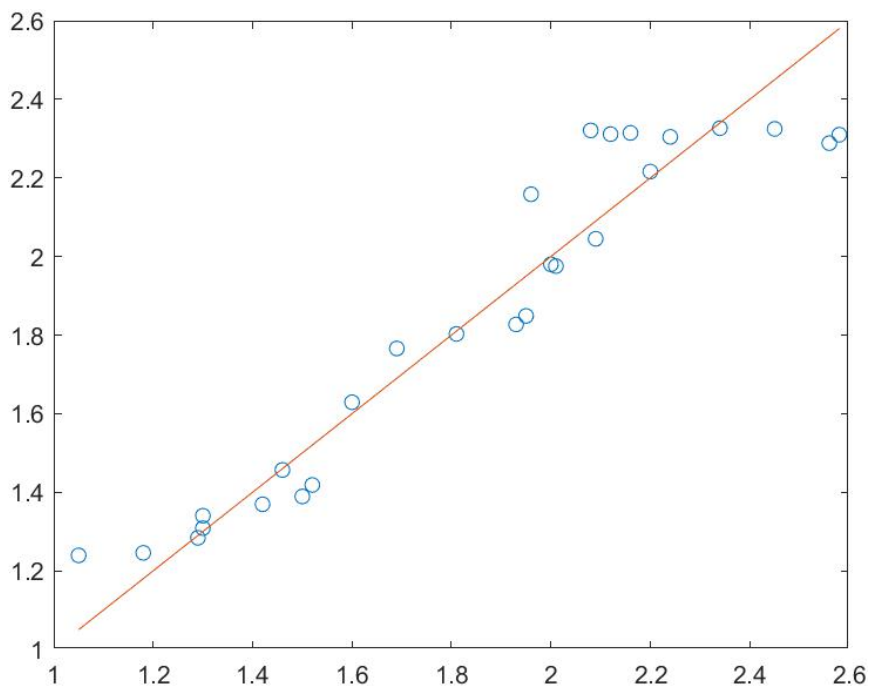
```
work4.m x curvfun.m* + curvfun 函数 code
function Q = curvfun(param,KL)
    Q = param(1)*(KL(1,:).^param(2)).*(KL(2,:).^param(3));
end
```

% Q2. 经济增长模型

### 主函数 code

```
KL = [1.04 1.06 1.16 1.22 1.27 1.37 1.44 1.53 1.57 2.05 2.51 2.63 2.74 ...
      2.82 3.24 3.24 3.61 4.10 4.36 4.77 4.75 4.54 4.54 4.58 4.58 4.58 4.54 ;
      1.05 1.08 1.18 1.22 1.17 1.30 1.39 1.47 1.31 1.43 1.58 1.59 1.66 ...
      1.68 1.65 1.62 1.86 1.93 1.96 1.95 1.90 1.58 1.67 1.82 1.60 1.61 1.64 ];
Q = [1.05 1.18 1.29 1.30 1.30 1.42 1.50 1.52 1.46 1.60 1.69 1.81 1.93 ...
     1.95 2.01 2.00 2.09 1.96 2.20 2.12 2.16 2.08 2.24 2.56 2.34 2.45 2.58];
param0 = [1,1,1];
%curvfun = inline('param(1)*(KL(1,:).^param(2)).*(KL(2,:).^param(3))','param','KL');
param = lsqcurvefit('curvfun',param0,KL,Q)
Q1 = curvfun(param,KL);
figure(1);plot(Q,Q1,'o',Q,Q,'-');
axis([1 2.6 1 2.6])
a = param(1)
Alpha = param(2)
Beta = param(3)
```

### 拟合预测值与实际值的残差评估



### 参数结果

```
param =
    1.2246e+00    4.6116e-01   -1.2768e-01

a =
    1.2246e+00

Alpha =
    4.6116e-01

Beta =
   -1.2768e-01
```