

## 第一次编程作业说明

依据截断误差求出k:

设从序号为1的值求和至序号为 $k_0$ 的值, 则被舍去的级数部分和为

$$\sum_{k=k_0+1}^{\infty} \frac{1}{k(k+x)} < \sum_{k=k_0+1}^{\infty} \frac{1}{k^2} < \int_{k_0}^{\infty} \frac{1}{t^2} dt = \frac{1}{k_0} < 10^{-6}$$

则取

$$k_0 = 10^6$$

运行结果:

```
x = 0, y = 1.644933066848770e+00
x = 0.5, y = 1.227410277760964e+00
x = 1, y = 9.999990000010476e-01
x = 1.41421, y = 8.749819960221313e-01 (x使用sqrt函数)
x = 10, y = 2.928958254023105e-01
x = 100, y = 5.187277522689390e-02
x = 300, y = 2.094121308480047e-02
```