对函数

$$f(x) = \frac{1}{1 + 25x^2}, x \in [-1, 1]$$

构造牛顿插值多项式$p_N(x)$，插值节点取为：

1. $x_i = 1 - \dfrac{2}{N}i, \ i = 0, 1, \cdots, N$

2. $x_i = -\cos(\dfrac{2i+1}{2N+2}\pi), \ i = 0, 1, \cdots, N$ (Chebyshev point)

并计算如下误差

$$\max_i\{|f(y_i) - p(y_i)|, \ y_i = \frac{i}{50} - 1, \ i = 0, 1, \cdots, 100\}$$

对$N = 5, 10, 20, 40$比较以上两组节点的结果，并在一张图中画出$N = 20$时$f(x)$数值计算结果。

输出形式如下：
N=5
Max Error of grid (1)：XXXXXXXXXXXXXXXX
Max Error of grid (2)：XXXXXXXXXXXXXXXX
N=10
Max Error of grid (1)：XXXXXXXXXXXXXXXX
Max Error of grid (2)：XXXXXXXXXXXXXXXX
N=20
Max Error of grid (1)：XXXXXXXXXXXXXXXX
Max Error of grid (2)：XXXXXXXXXXXXXXXX
N=40
Max Error of grid (1)：XXXXXXXXXXXXXXXX
Max Error of grid (2)：XXXXXXXXXXXXXXXX