

# Badanie realizacji zad2

$$F(x) = (x - 1)^8$$

# Wskaźnik uwarunkowania zadania

$$f(x) = (x - 1)^8$$

$$\text{cond}(f(x)) = |x f'(x) / f(x)| = |8x / x - 1|$$

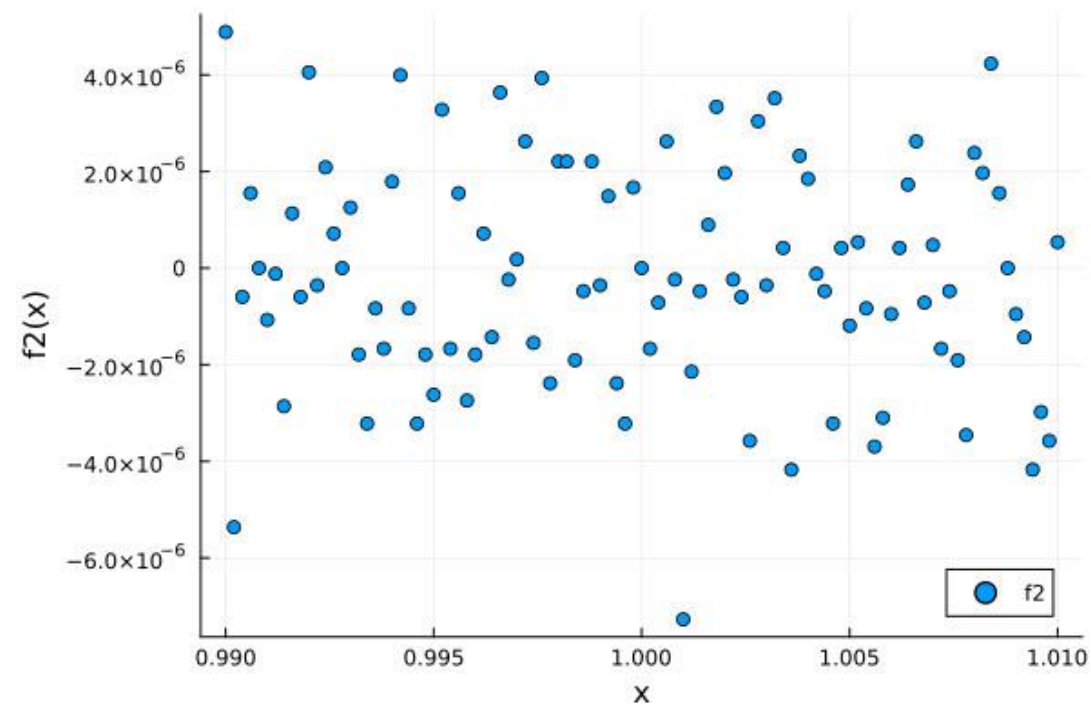
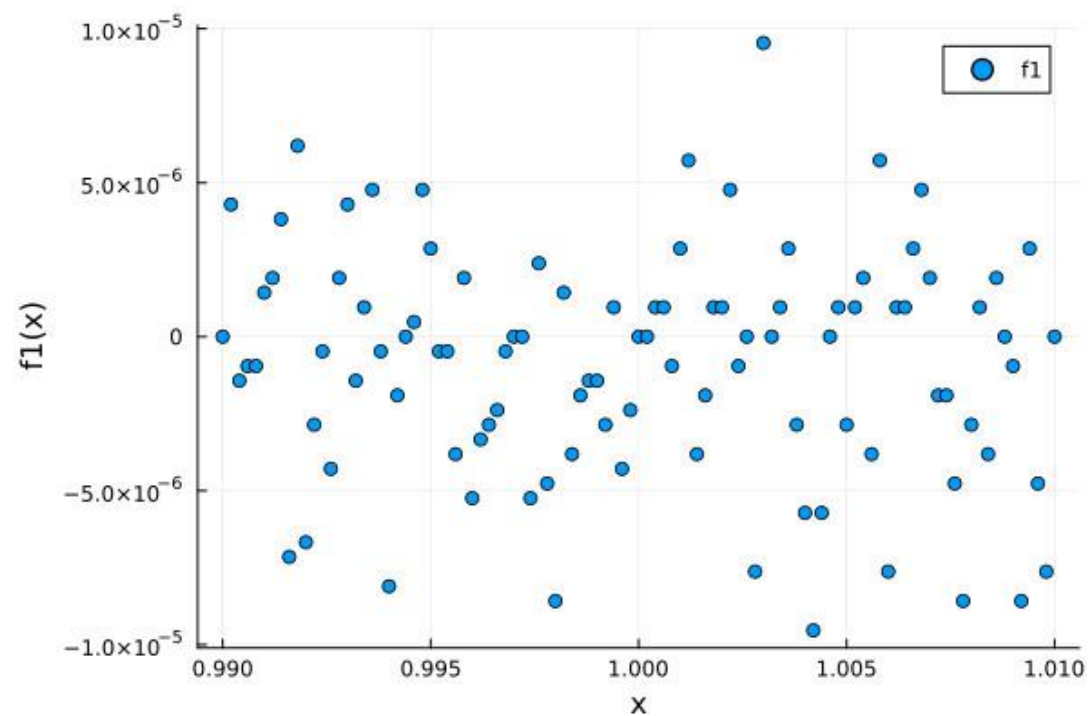
$$x = (1 + 2 * 10^{-4}) \Rightarrow \text{cond}(f(x)) \approx 10^3$$

(krok który badamy)

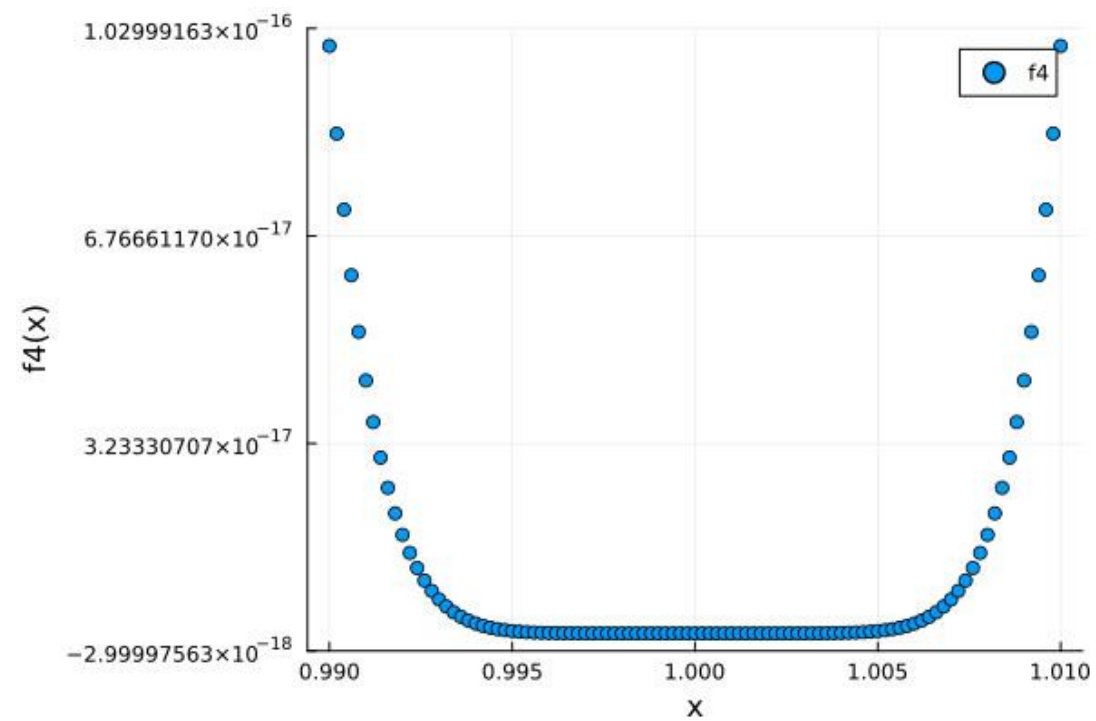
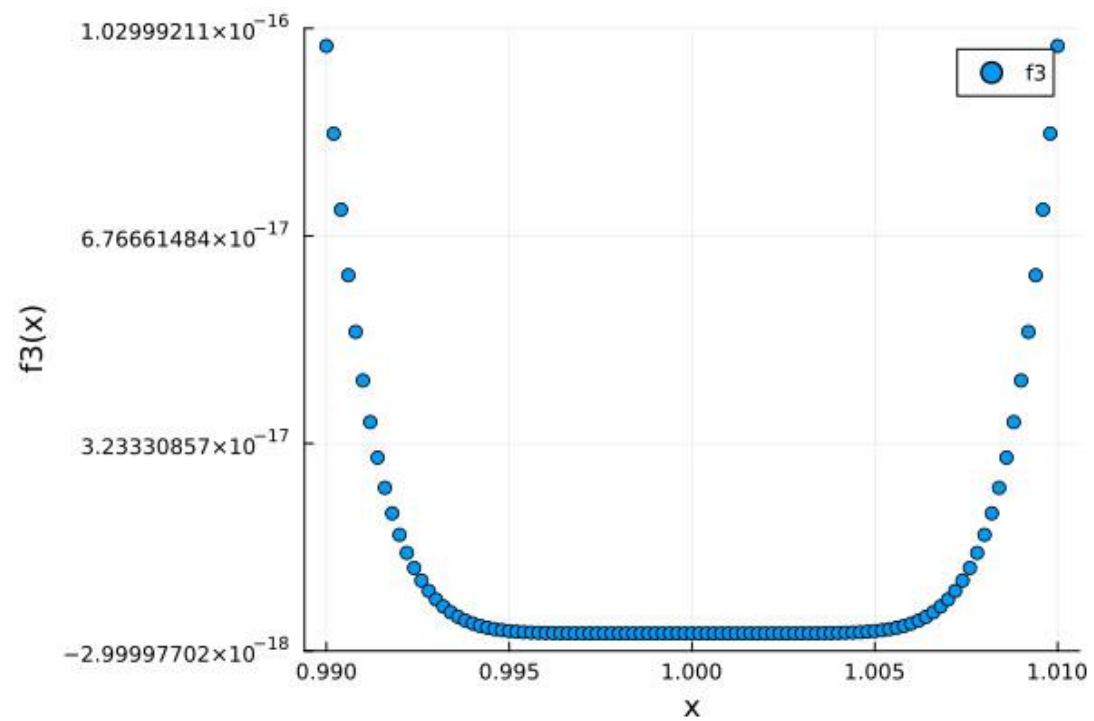
# Algorytmy realizujące zadanie

- $f1(x) = x^8 - 8x^7 + 28x^6 - 56x^5 + 70x^4 - 56x^3 + 28x^2 - 8x + 1$
- $f2(x) = (((((((x - 8)x + 28)x - 56)x + 70)x - 56)x + 28)x - 8)x + 1$
- $f3(x) = (x - 1)^8$
- $f4(x) = e^{(8\ln(\text{abs}(x-1)))}$ ,  $x \neq 1$

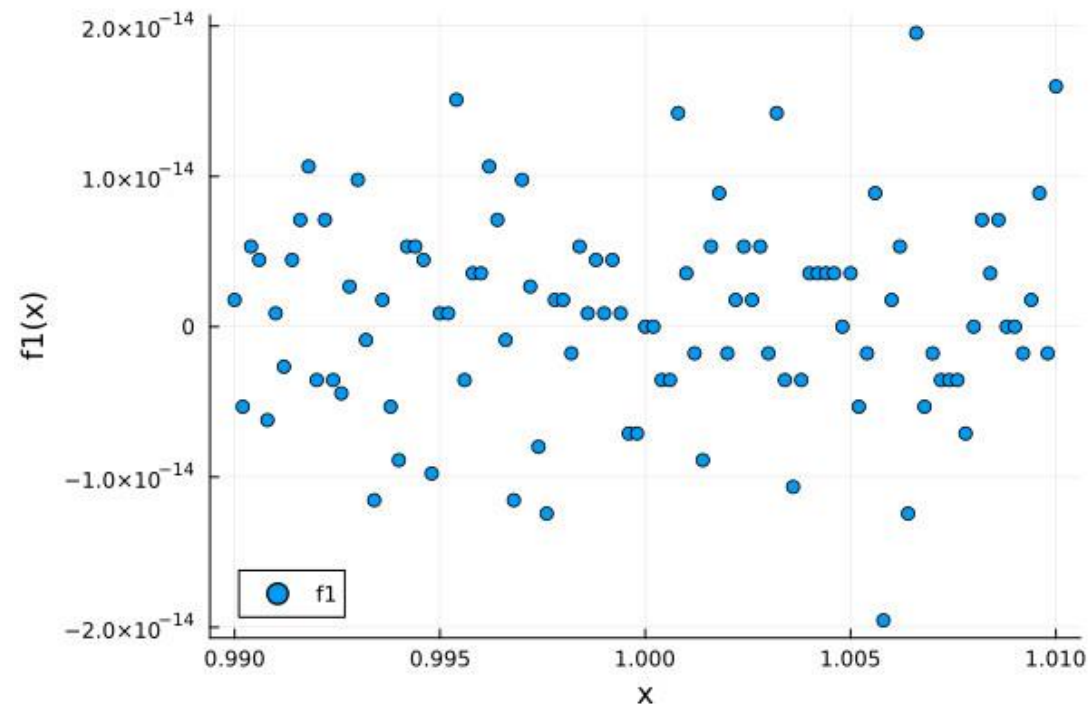
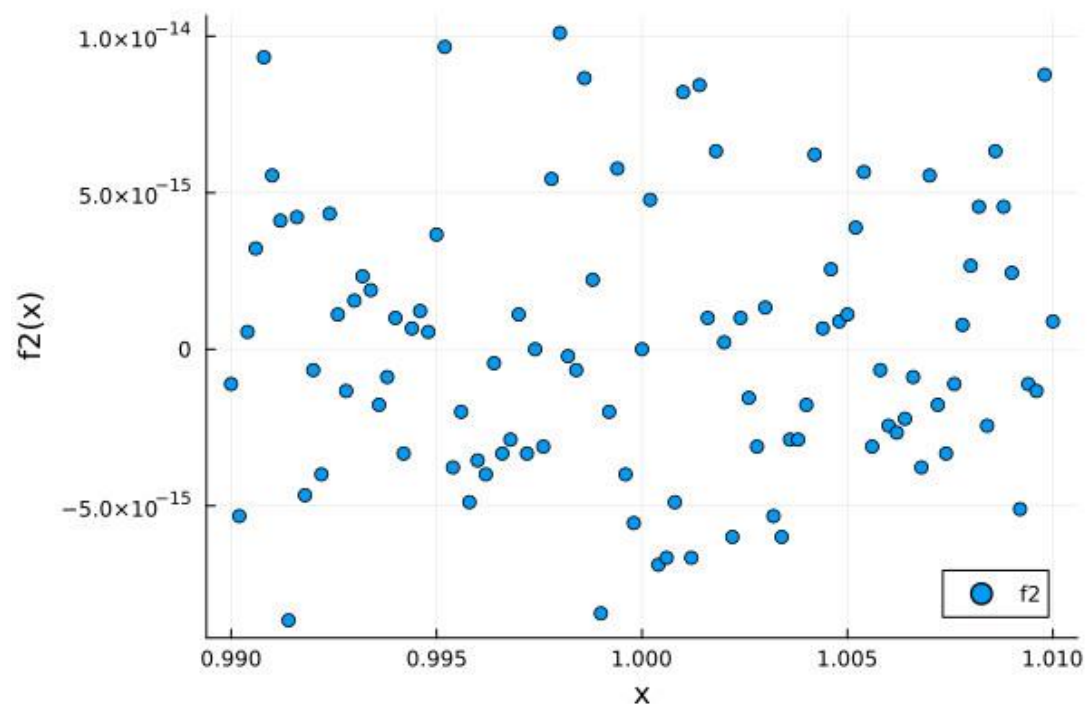
# Float32



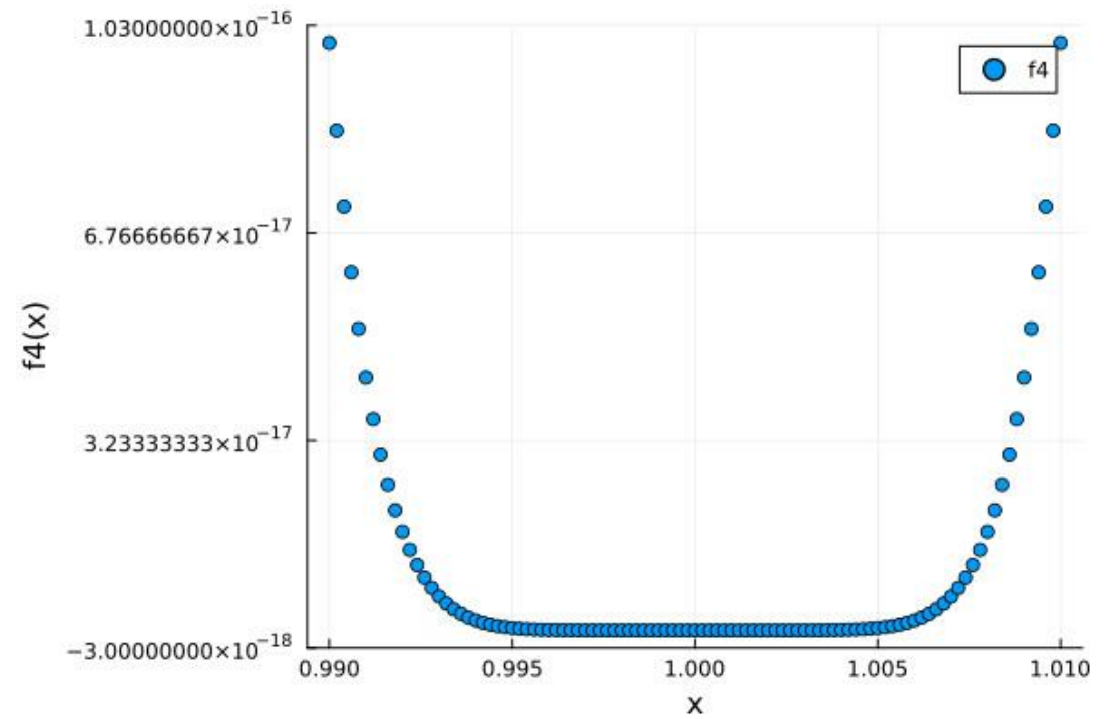
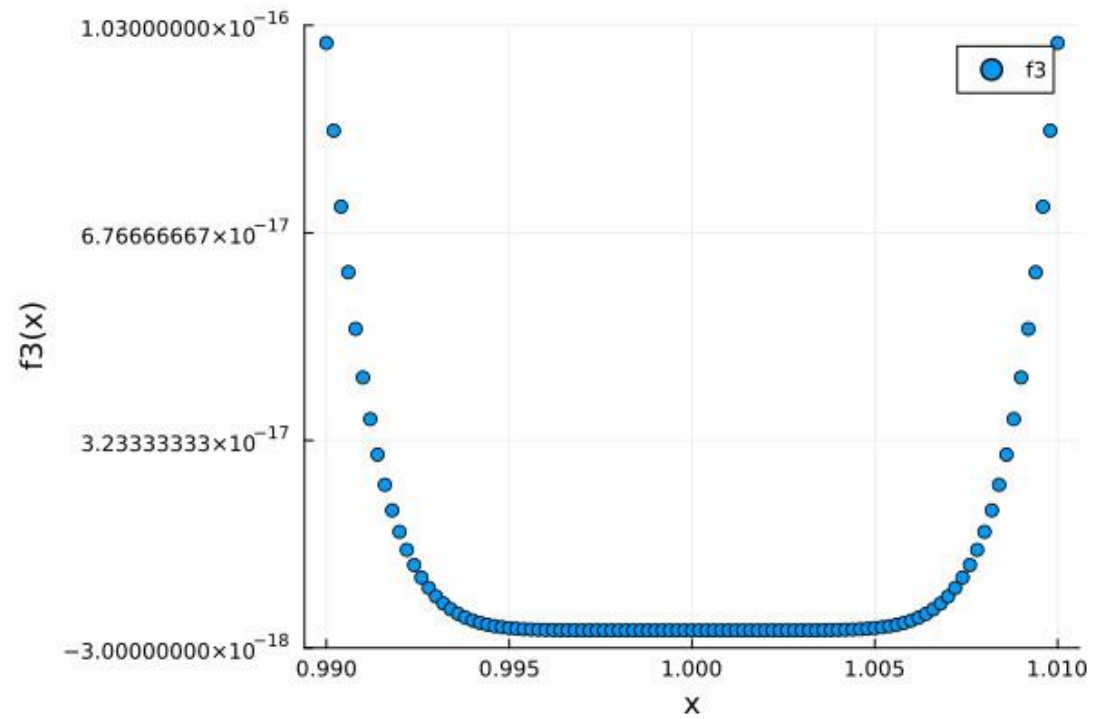
# Float32



# Float64



# Float64



# BigFloat

