

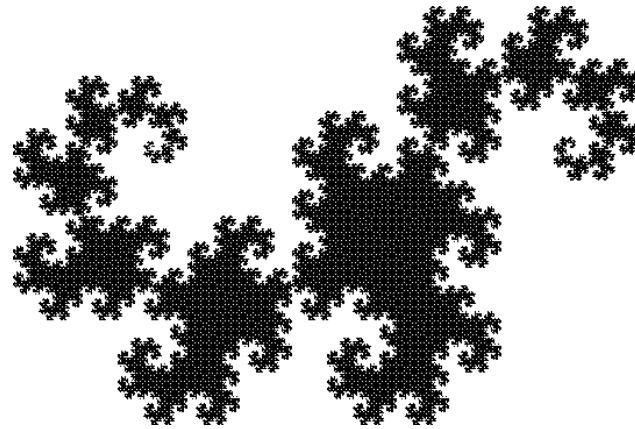
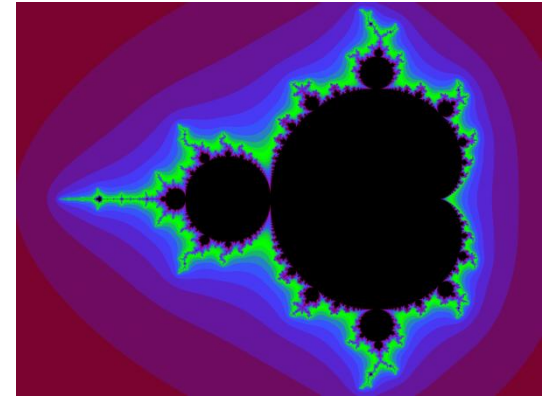
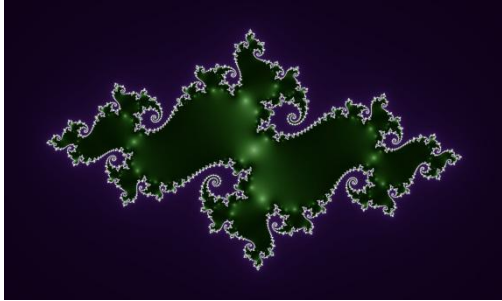
Fractals

Felix Dietrich

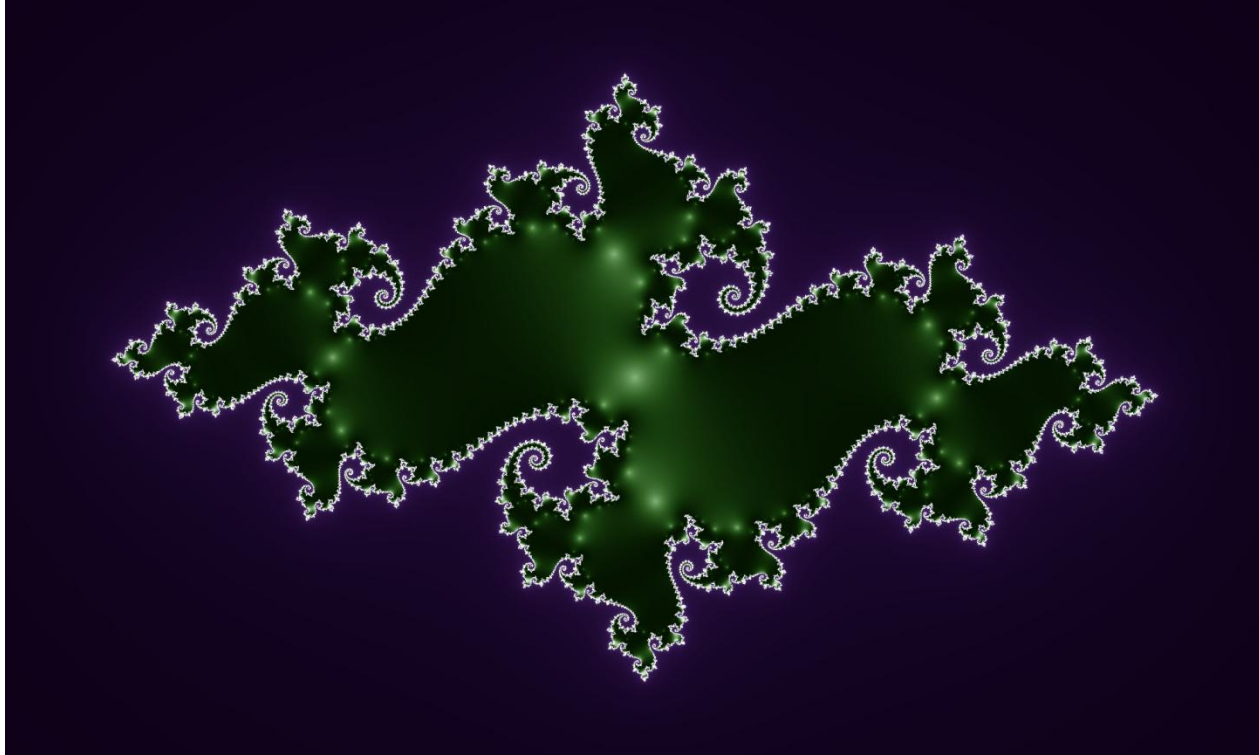
Übersicht

- Fraktale allgemein
- Problem D – Fractal
 - Bruteforce-Lösung
 - Accepted-Lösung
- Weitere Fraktalprobleme

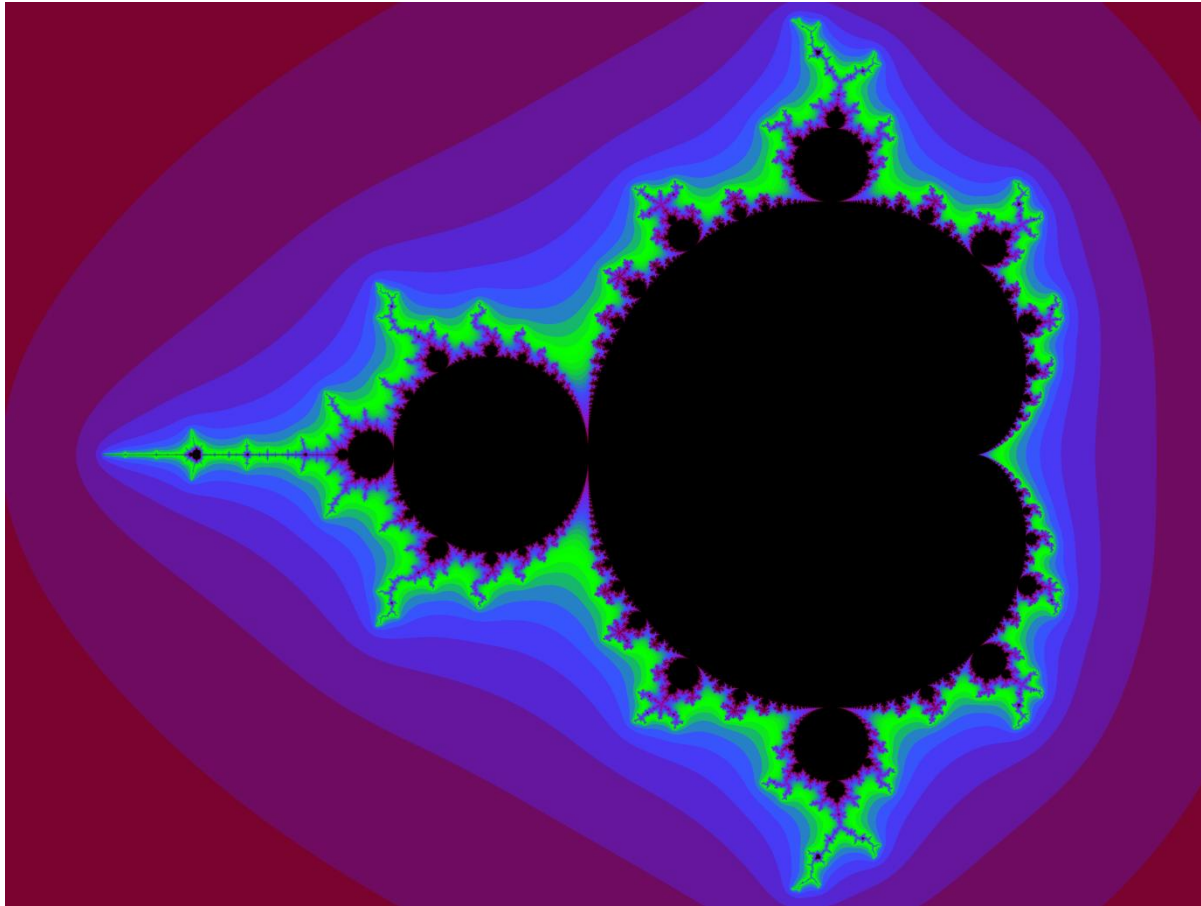
Fraktale



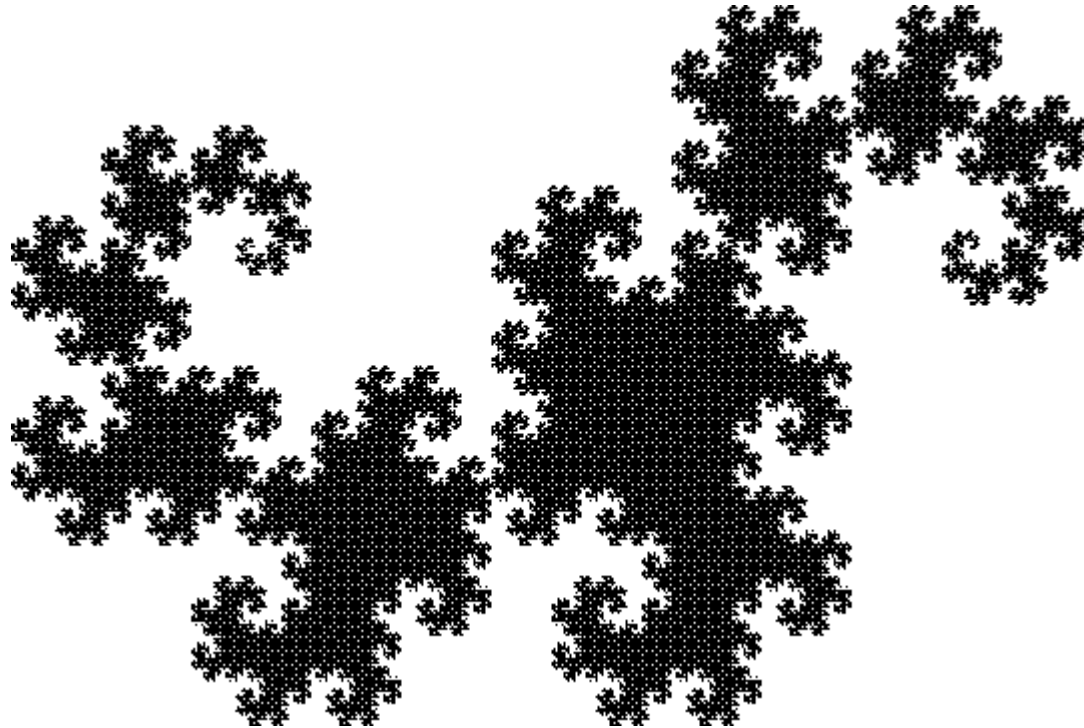
Julia-Menge



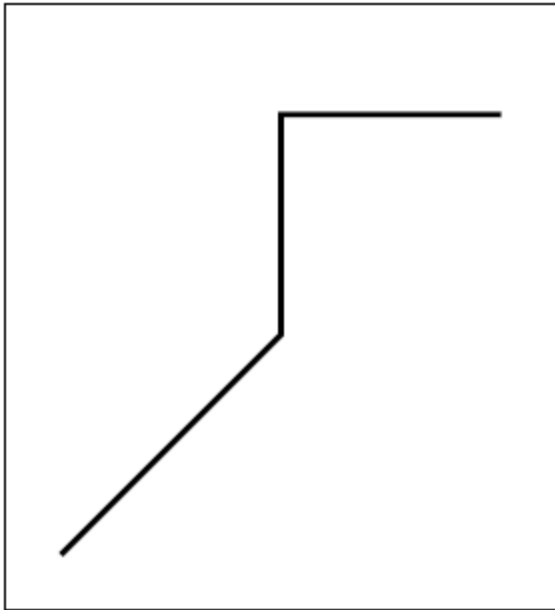
Mandelbrot-Menge



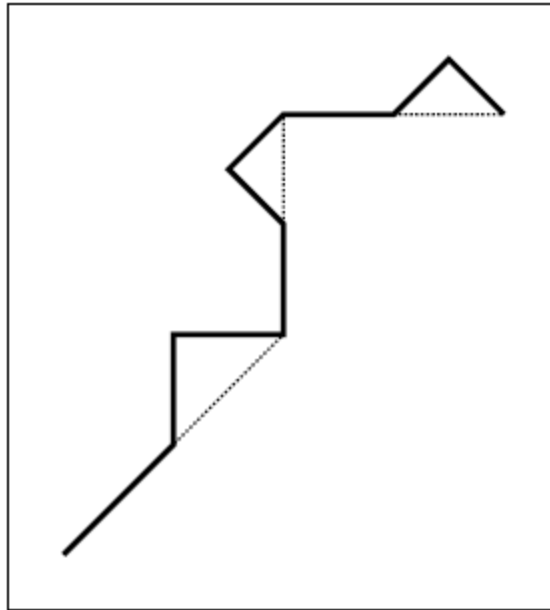
Drachenkurve



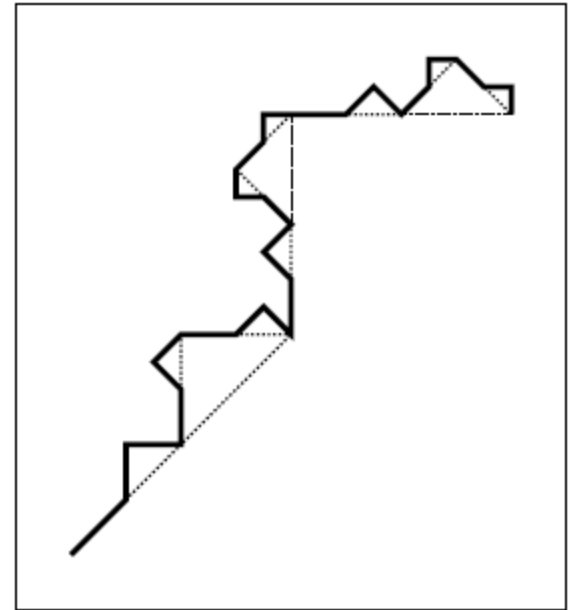
Problem D - Fractal



Tiefe: 1



2

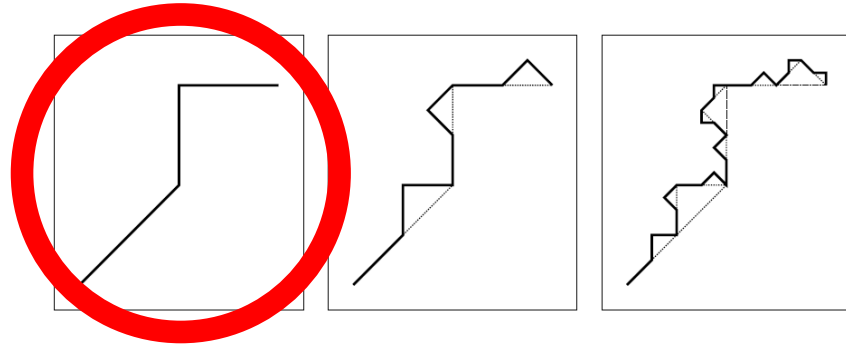


3

Problem D - Fractal

Gegeben

Basis-Punkte: $3 \leq n \leq 100$



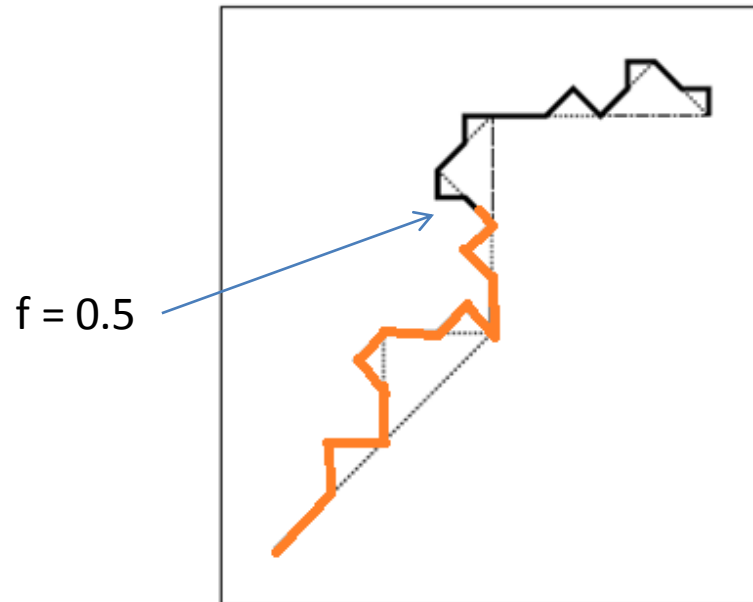
Tiefe: $1 \leq d \leq 10$

Anteil: $0 \leq f \leq 1$

Problem D - Fractal

Gesucht

Punkt nach dem Durchlaufen des
gegebenen Bruchteils der Länge



Lösung: Bruteforce

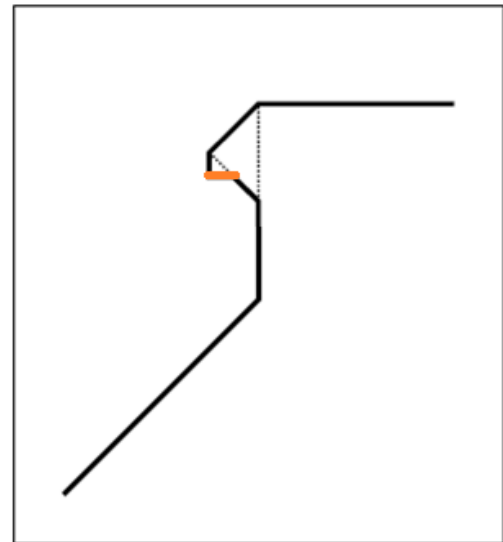
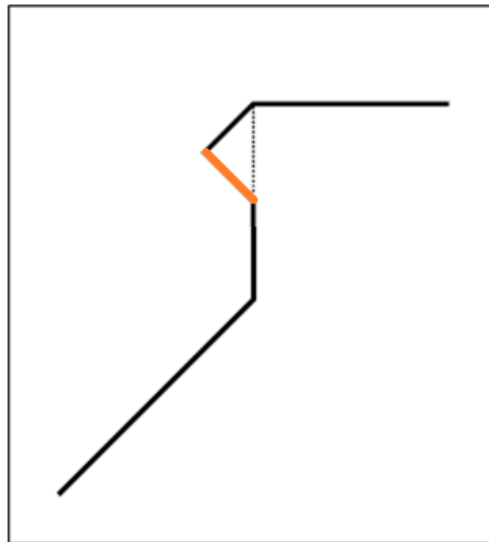
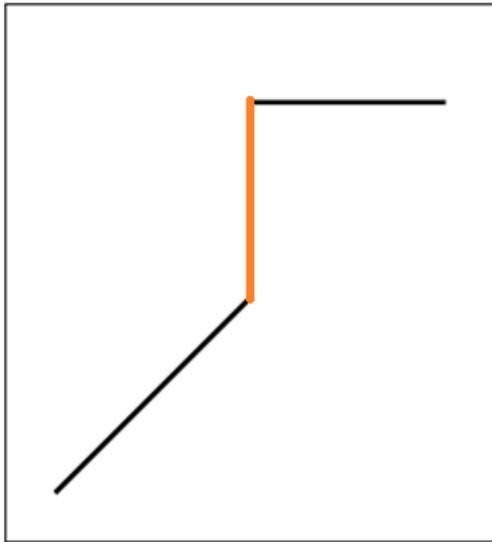
➤ Fraktal generieren & durchlaufen

Problem:

- Komplexität $O(n^d)$
- Zu viele Punkte bei $n \leq 100$, $d \leq 10$

Lösung

- Linie bei gegebenem Anteil herausfinden
- Neuen Anteil berechnen
- Fraktal nur auf der einen Linie weiterzeichnen

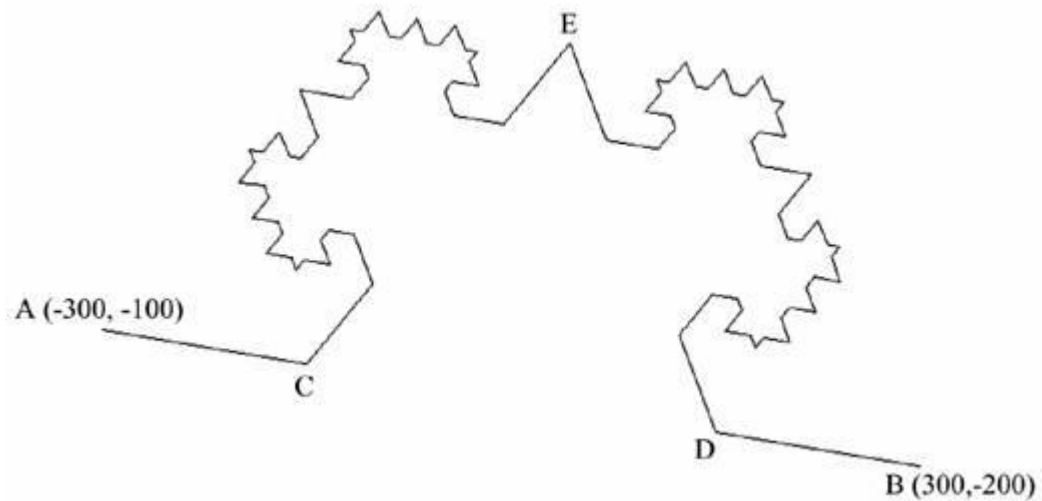


Contest



Ähnliche Probleme

Problem 10609 - Fractal



Ähnliche Probleme

Problem 11253 - Fractal

