Pijavskij algoritam С. А. Пиявский, Один алгоритм отыскания абсолютного екстрмума функции, Ж. вычисл. матем. и матем. физ. **12**(1972), 888-896

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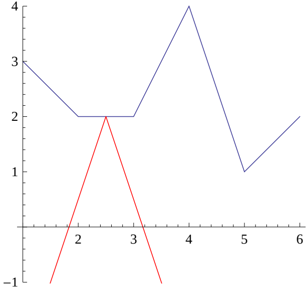

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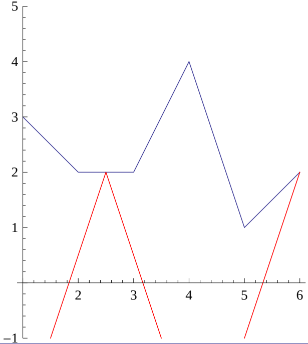

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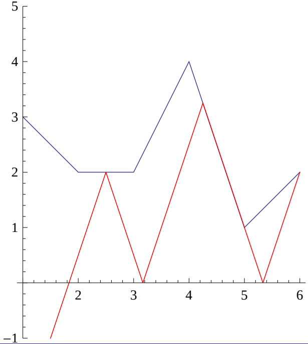

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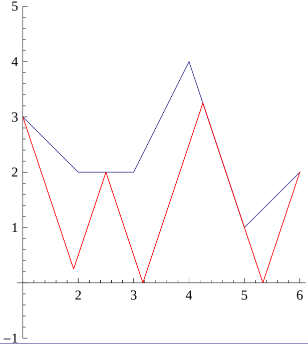

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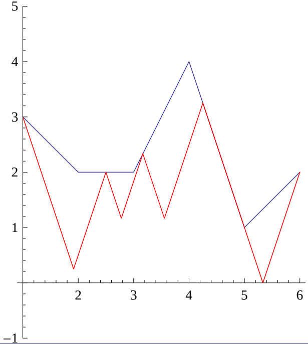

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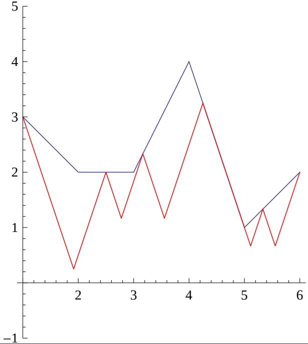

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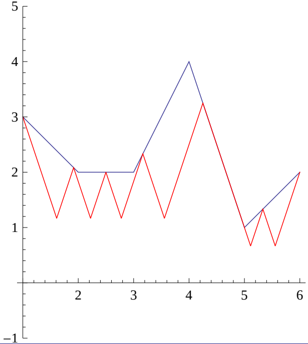

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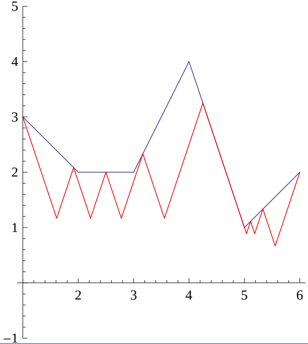

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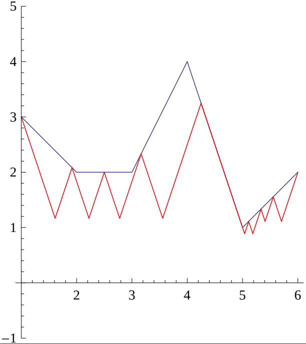

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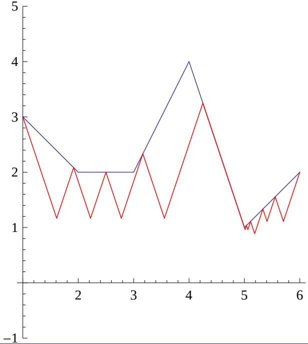

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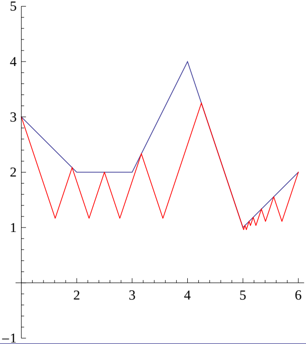

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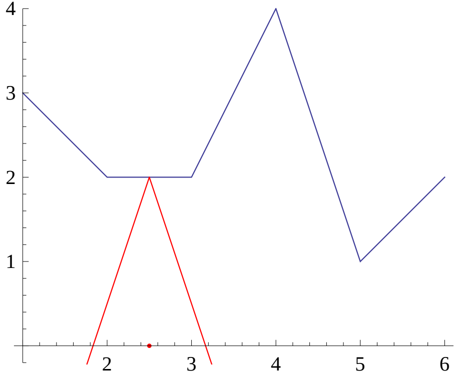
$$f : [1,6] \to \mathbb{R}, \qquad f(x) = \begin{cases} -x+4, & 1 \le x \le 2, \\ 2, & 2 \le x \le 3, \\ 2x-4, & 3 \le x \le 4, \\ -3x+16, & 4 \le x \le 5, \\ x-4, & 5 \le x \le 6 \end{cases}$$



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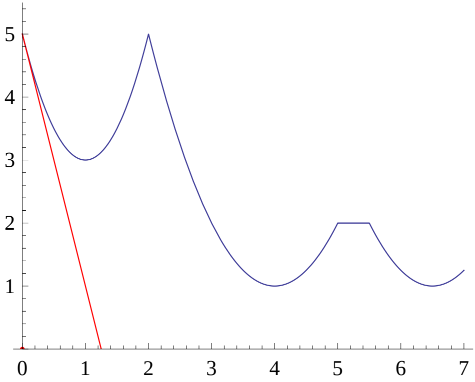
$$f : [1,7] \to \mathbb{R}, \qquad f(x) = \begin{cases} 2(x-1)^2+3, & 0 \le x \le 2, \\ (x-4)^2+1, & 2 \le x \le 5, \\ 2, & 5 \le x \le 5.5, \\ (x-6.5)^2+1, & 5.5 \le x \le 7 \end{cases}$$



Shubert algoritam (B. Shubert, *A sequential method seeking the global maximum of a function*, SIAM Journal on Numerical Analysis, **9**(1972), 379–388)

- Odrediti pravce $x \mapsto f(a) - L(x-a)$ i $x \mapsto f(b) + L(x-b)$ i točku njihovog sjecišta $(U(a,b,f,L), B(a,b,f,L))$
- Staviti $u_1 = U(a,b,f,L)$. Od dva intervala $[a,u_1]$, $[u_1,b]$ izabrati onaj s manjom B-vrijednosti.
- Ako je $[a,u_1]$ izabrani interval, staviti $u_2 = U(a,u_1,f,L)$.
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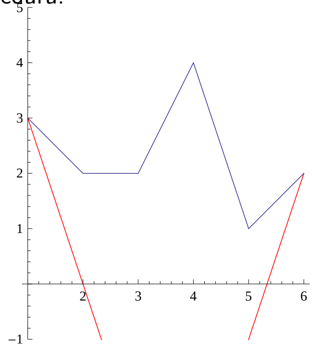

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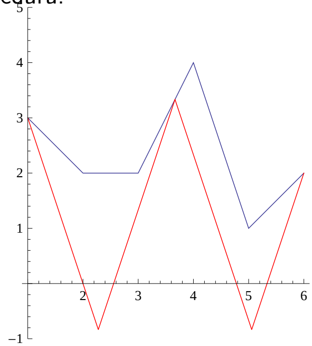

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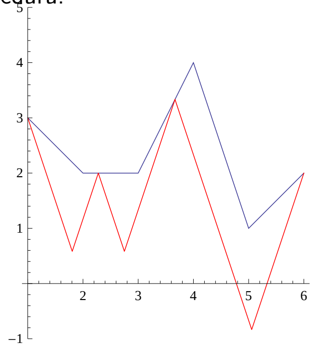

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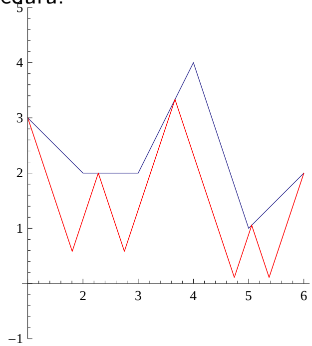

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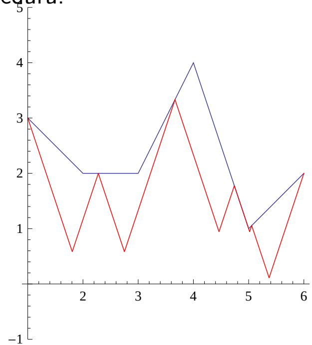

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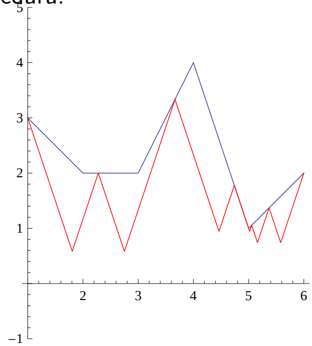

Shubert algoritam (B. Shubert, *A sequential method seeking the global maximum of a function*, SIAM Journal on Numerical Analysis, **9**(1972), 379–388)

- Odrediti pravce $x \mapsto f(a) - L(x-a)$ i $x \mapsto f(b) + L(x-b)$ i točku njihovog sjecišta $(U(a,b,f,L), B(a,b,f,L))$
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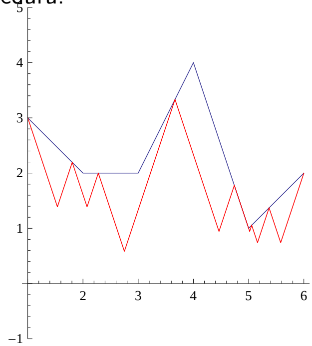

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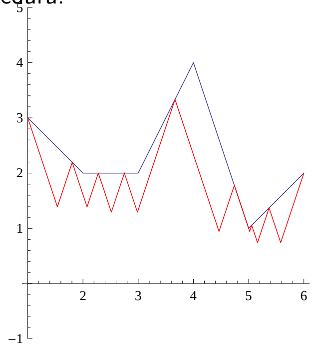

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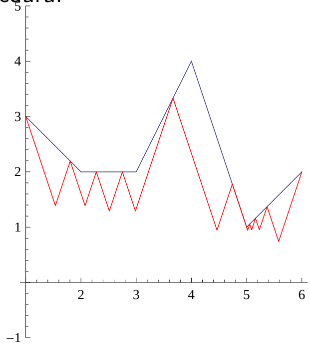

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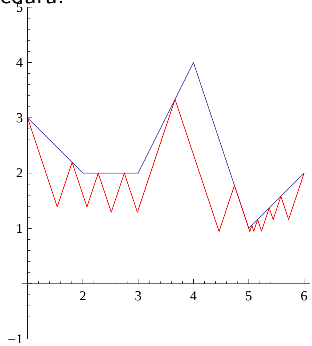

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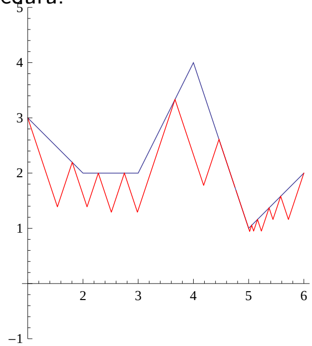

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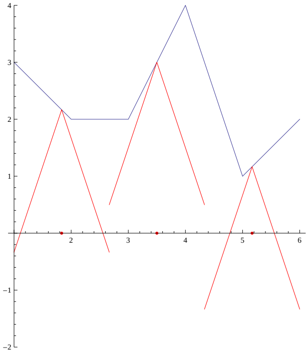

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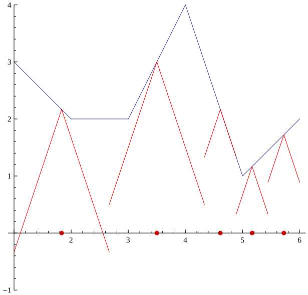

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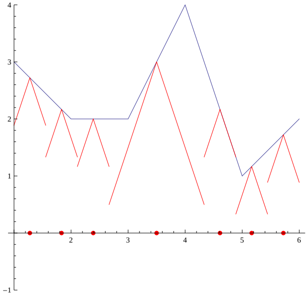

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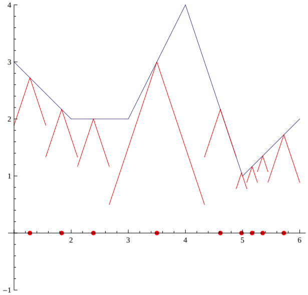

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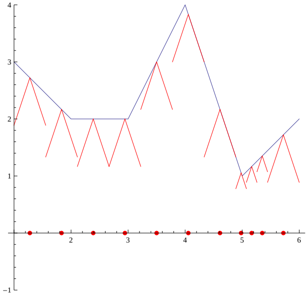

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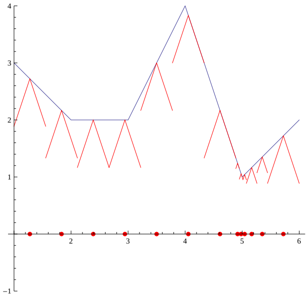

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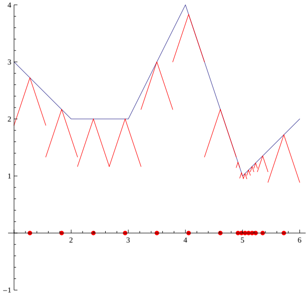

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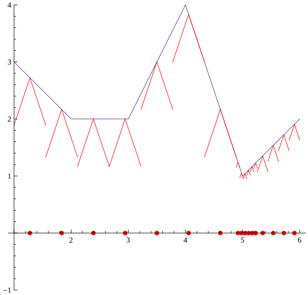

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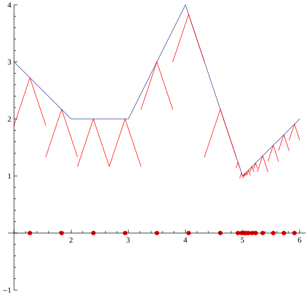

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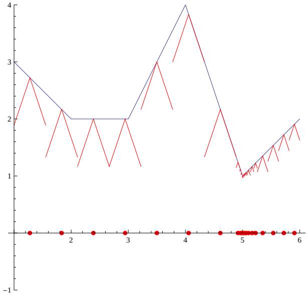

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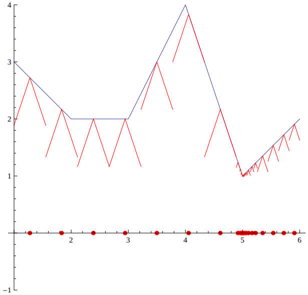

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$$f:[1,7]\to\mathbb{R},\qquad f(x)=\begin{cases}2(x-1)^2+3, & 0\le x\le 2,\\ (x-4)^2+1, & 2\le x\le 5,\\ 2, & 5\le x\le 5.5,\\ (x-6.5)^2+1, & 5.5\le x\le 7\end{cases}$$