

Tennä

$$f(x) = x^3 - 60x^2 + 900x + 100$$

$$f(0) = 0 + 0 + 0 + 100 = 100 \sim 000000_2$$

$$f(1) = 1 - 60 + 900 + 100 = 941 \sim 000011_2$$

$$f(2) = 8 - 240 + 1800 + 100 = 1668 \sim 00010_2$$

$$f(3) = 27 - 540 + 2400 + 100 = 2287 \sim 00011_2$$

All the rest in R studio

$$f(4) = 2804 \sim 00100_2$$

$$f(23) = 1224 \sim 10111_2$$

$$f(5) = 3225 \sim 00101_2$$

$$f(24) = 964 \sim 11000_2$$

$$f(6) = 3556 \sim 00110_2$$

$$f(25) = 725 \sim 11001_2$$

$$f(7) = 3803 \sim 00111_2$$

$$f(26) = 516 \sim 11010_2$$

$$f(8) = 3942 \sim 01000_2$$

$$f(27) = 343 \sim 11011_2$$

$$f(9) = 4069 \sim 01001_2$$

$$f(28) = 212 \sim 11100_2$$

$$f(10) = 4100 \sim 01010_2$$

$$f(29) = 129 \sim 11101_2$$

$$f(11) = 4041 \sim 01011_2$$

$$f(30) = 100 \sim 11110_2$$

$$f(12) = 3988 \sim 01100_2$$

$$f(31) = 131 \sim 11111_2$$

$$f(13) = 3854 \sim 01101_2$$

$$f(14) = 3684 \sim 01110_2$$

$$f(15) = 3445 \sim 01111_2$$

$$f(16) = 3236 \sim 10000_2$$

$$f(17) = 2943 \sim 10001_2$$

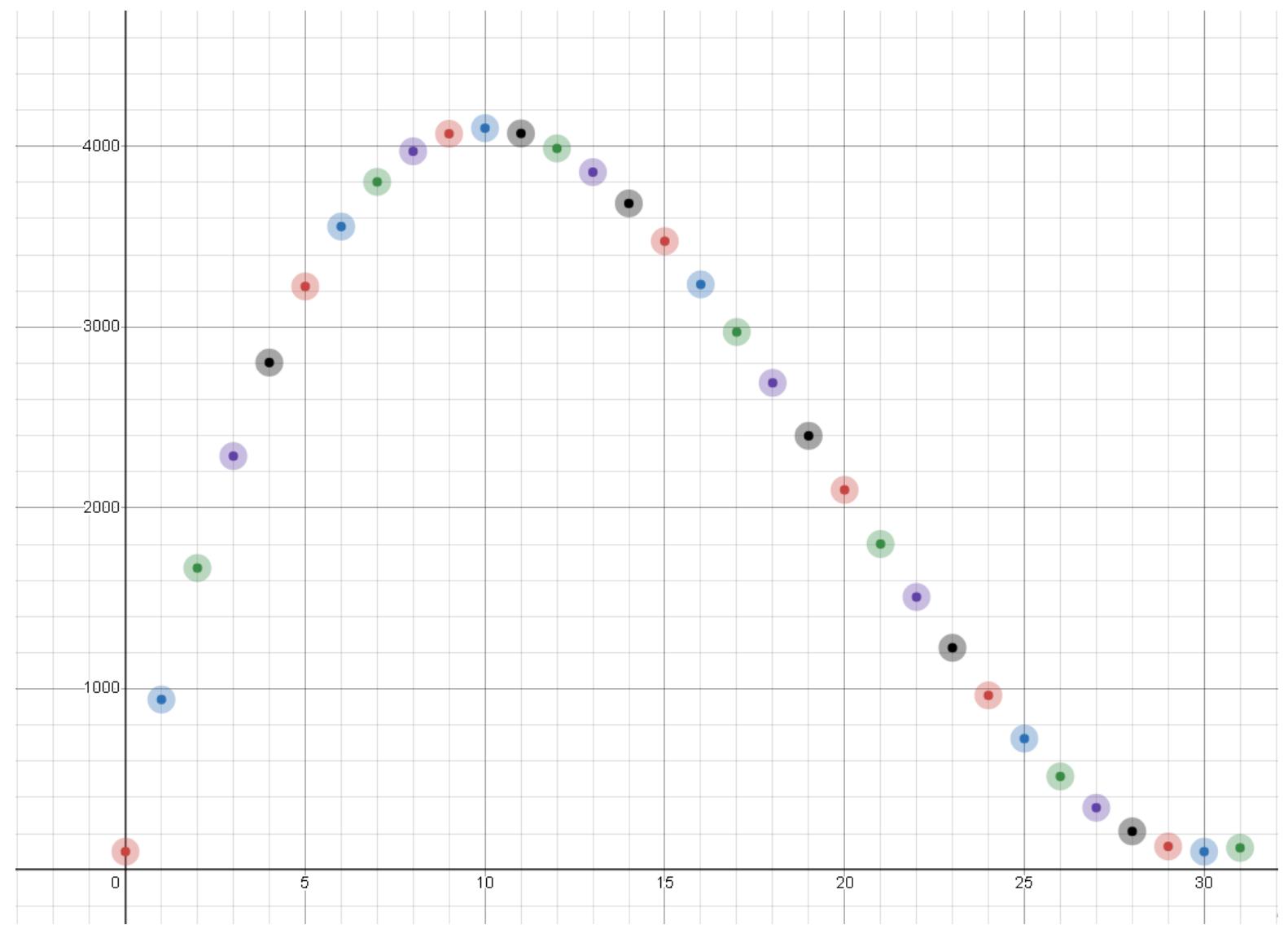
$$f(18) = 2692 \sim 10010_2$$

$$f(19) = 2399 \sim 10011_2$$

$$f(20) = 2100 \sim 10100_2$$

$$f(21) = 1801 \sim 10101_2$$

$$f(22) = 1508 \sim 10110_2$$



Gemenez o solutie nandorii

$x = 20 \approx 10100_2$ șiloc vecinii lui

\Rightarrow vecini = {00100, 11100, 10000, 10110, 10101}

MN = {4, 28, 16, 22, 21}

$f(20) = 2100$ și $f(4) = 2804$

$f(28) = 212$

$f(16) = 3236$

$f(22) = 1508$

$f(21) = 1801$

$f(16)$ este maxim

16 $\approx 10000_2$

vecini = {00000, 11000, 10100, 10010, 10001}

MN = {0, 24, 20, 18, 14}

$f(16) = 3236$ $f(0) = 100$

$f(24) = 212$

$f(20) = 2100$

$f(18) = 2692$

$f(17) = 2943$ nu avem vecin

mai bun deci ne opriuți deci pt $x = 20$ alături

val max gărită este 3236.

pt $x = 0$

vecini = {10000, 01000, 00100, 00010, 00001}

MN = {16, 8, 4, 2, 1}

maximum = 16

Actualizare: $0 \rightarrow 16^2$

pt $x = 1$ $f(1) = 941$

vecini = {10001, 01001, 00101, 00011, 00000}

MN = {14, 9, 5, 3, 0}

$$f(17) = 2943 \quad - f(g) \max$$

$$f(9) = 4069$$

$$f(5) = 3225$$

$$f(3) = 2284$$

$$f(4) = 100$$

$$x=9 \quad f(g) = 4069$$

vecini = {11001, 00001, 01101, 01011, 01000}

$$mn = \{25, 1, 13, 11, 8\}$$

$$f(25) = 425$$

$$f(1) = 941$$

$$f(13) = 3854 \Rightarrow \max = 11$$

$$f(11) = 4041$$

$$f(8) = 3942$$

$$x=11$$

01011 vecini = {11011, 00011, 01111, 01001, 01010}

$$mn = \{24, 3, 15, 9, 10\}$$

10 fund max global $\Rightarrow \max = 10$

Actualizar: ① → ⑨ → ⑪ → ⑩

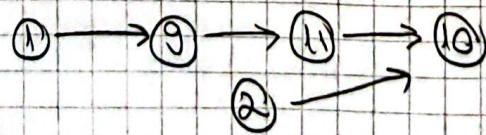
pt x=2 $f(2) = 1668$

00010 vecini = {10010, 01010, 00110, 00000, 00011}

$$mn = \{18, 10, 6, 0, 3\}$$

10 max global $\Rightarrow \max = 10$

Actualizar:



pt x=3 $f(3) = 2284$

00011 vecini = {10011, 01011, 00111, 00001, 00010}

$$mn = \{19, 11, 4, 1, 2\}$$

$$f(19) = 2399$$

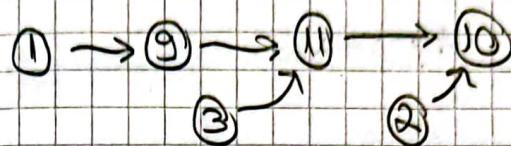
$$f(11) = 4071 \Rightarrow 11 \text{ max} \rightarrow 10$$

$$f(7) = 3803$$

$$f(1) = 941$$

$$f(2) = 1668$$

Actualizar



$$\text{pt } x=4 \quad f(4) = 2804$$

00100

$$\text{vecimi} = \{10100, 01100, 00000, 00110, 00101\}$$

$$mR = \{20, 12, 0, 6, 5\}$$

$$f(20) = 2100$$

$$f(12) = 3988 \Rightarrow 12 \text{ max}$$

$$f(0) = 100$$

$$f(6) = 3556$$

$$f(5) = 3225$$

$$\text{pt } x=12 \quad f(12) = 3988$$

01100

$$\text{vecimi} = \{11100, 00100, 01000, 01110, 01101\}$$

$$mR = \{28, 4, 8, 14, 13\}$$

$$f(28) = 212$$

$$f(4) = 2804 \Rightarrow \text{Número } 12$$

$$f(8) = 3942$$

$$f(14) = 3684$$

$$f(13) = 3854$$

Actualizar $4 \rightarrow 12^2$

$$\text{pt } x=5 \quad f(5) = 3225$$

00101

$$\text{vecimi} = \{10101, 01101, 00001, 00111, 00100\}$$

$$mR = \{21, 13, 1, 4, 5\}$$

$$f(21) = 1801$$

$$f(13) = 3854 \Rightarrow \max = 13$$

$$f(1) = 941$$

$$f(7) = 3803$$

$$f(4) = 2804$$

$$\text{pt } x=13 \quad f(13)=3854 \\ 01101$$

$$\text{vecimi} = \{11101, 00101, 01001, 01111, 01100\}$$

$$m_n = \{29, 5, 9, 15, 12\}$$

$$f(29) = 129$$

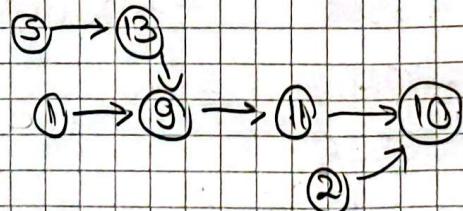
$$f(5) = 3225$$

$$f(9) = 4069 \Rightarrow \max 9 \quad \text{9 merge in } 11 \rightarrow 10$$

$$f(15) = 3475$$

$$f(2) = 1668$$

ACTUALIZE₂:



$$\text{pt } x=6 \quad f(6)=3556 \\ 00110$$

$$\text{vecimi} = \{10110, 01110, 00010, 00100, 00111\}$$

$$m_n = \{22, 14, 2, 4, 4\}$$

$$f(22) = 1508$$

$$f(14) = 3684 \Rightarrow 4 \max$$

$$f(2) = 1668$$

$$f(4) = 2804$$

$$f(7) = 3803$$

$$\text{pt } x=4 \quad f(4)=3803 \\ 00111$$

$$\text{vecimi} = \{10111, 01111, 00011, 00101, 00110\}$$

$$m_n = \{23, 15, 3, 5, 6\}$$

$$f(23) = 1227$$

$$f(15) = 3475$$

$$f(3) = 2287$$

$$f(5) = 3225$$

$$f(6) = 3556$$

\Rightarrow now we max 7

ACTUALIZE: ⑥ \rightarrow ⑦ ⑧

pt $x=8$ $f(8) = 3972$

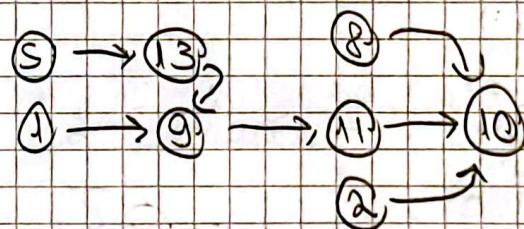
01000

$$\text{vecini} = \{11000, 00000, 01100, 01010, 01001\}$$

$$mn = \{24, 0, 12, 10, 9\}$$

10 max global

actualize:



pt $x=14$ $f(14) = 3684$

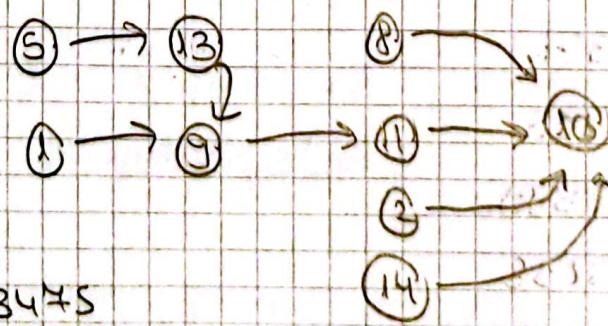
01110

$$\text{vecini} = \{11110, 00110, 01010, 01100, 01111\}$$

$$mn = \{30, 6, 10, 12, 15\}$$

10 max global

\Rightarrow ACTUALIZE:



pt $x=15$ $f(15) = 3475$

01111

$$\text{vecini} = \{11111, 00111, 01011, 01101, 01110\}$$

$$mn = \{31, 7, 11, 13, 14\}$$

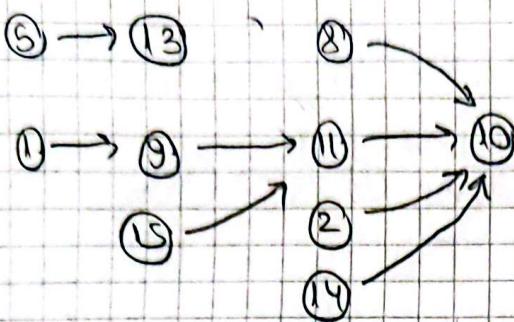
$$f(31) = 1131$$

$$f(7) = 3803$$

$$f(11) = 4041$$

\Rightarrow 11 max 11 wenge \uparrow in 10

Actualizez



$$pt \ x = 16 \\ 10000 \quad f(16) = 3236$$

$$\text{vecini} = \{000000, 11000, 10100, 10010, 10001\}$$

$$mn = \{0, 24, 20, 18, 14\}$$

$$f(0) = 100$$

$$f(24) = 964 \Rightarrow \text{maxime } 16$$

$$f(20) = 2100$$

$$f(18) = 2692$$

$$f(14) = 2943$$

$$pt \ x = 14 \\ 10001 \quad f(14) = 2943$$

$$\text{vecini} = \{000001, 11001, 10101, 10011, 10000\}$$

$$mn = \{1, 25, 21, 19, 16\}$$

$$f(1) = 941$$

$\Rightarrow 16 \text{ max}$

$$f(25) = 425$$

Actualizez

$$f(19) = 2399$$

$$f(16) = 3236$$

$$pt \ x = 18 \\ 10010 \quad f(18) = 2692$$

$$\text{vecini} = \{00010, 11010, 10110, 10000, 10011\}$$

$$mn = \{2, 26, 22, 16, 19\}$$

$$f(2) = 1668$$

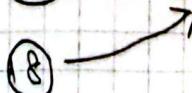
$$f(26) = 516$$

$$f(22) = 1508$$

$$f(16) = 3236$$

$$f(19) = 2399$$

$\Rightarrow 16 \text{ max}$



$$pt \quad x=19 \quad f(19)=2359$$

31-8

$$\text{vecimi} = \{00011, 11011, 10111, 10001, 10010\}$$

$$MN = \{3, 24, 23, 14, 18\}$$

$$f(3) = 2284$$

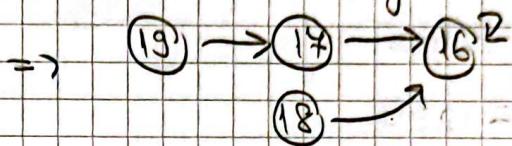
$$f(24) = 343$$

$$f(23) = 1224$$

$$f(14) = 2943$$

$$f(18) = 2692$$

$\Rightarrow 14 \text{ max } 14 \text{ merge in } 16$



$$pt \quad x=20 \quad f(20)=2100$$

$$\text{vecimi} = \{00100, 11100, 10000, 10110, 10101\}$$

$$MN = \{4, 28, 16, 22, 21\}$$

$$f(4) = 2804$$

$$f(28) = 212 \quad \Rightarrow \text{max } 16$$

$$f(16) = 3236 \quad \text{actualized}$$

$$f(22) = 1508$$

$$f(21) = 1801$$

$$pt \quad x=21 \quad f(21)=1801$$

$$\text{vecimi} = \{00101, 11101, 10001, 10111, 10100\}$$

$$MN = \{5, 29, 14, 23, 20\}$$

$$f(5) = 3225$$

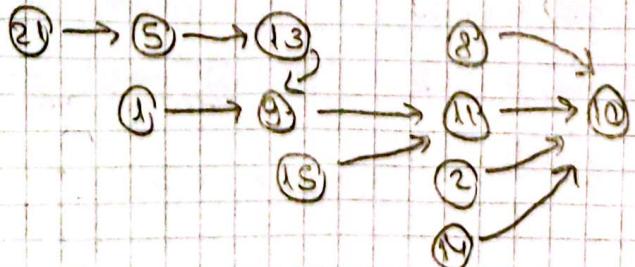
$$f(29) = 129$$

$$f(14) = 2943$$

$$f(23) = 1224$$

$$f(20) = 2100$$

$\Rightarrow 5 \text{ max actualized}$



$$pt \quad x=22 \quad f(22) = 1508$$

$vecimi = \{00110, 11110, 10010, 10100, 10110\}$

$MN = \{6, 30, 18, 20, 23\}$

$$f(6) = 3556$$

$$f(30) = 100 \Rightarrow 6 \max \rightarrow 4$$

$$f(18) = 2692$$

$$② \rightarrow ⑥ \rightarrow ⑦^2$$

$$f(20) = 2100$$

$$f(23) = 1224$$

$$pt \quad x=23 \quad f(23) = 1224$$

$vecimi = \{00111, 11111, 10011, 10101, 10110\}$

$MN = \{4, 31, 19, 21, 22\}$

$$f(4) = 3803$$

$$f(31) = 131 \Rightarrow 4 \max$$

$$f(19) = 2399$$

$$② \rightarrow ⑥ \rightarrow ⑦^2$$

$$f(21) = 1801$$

$$③ \nearrow$$

$$f(22) = 1508$$

$$pt \quad x=24 \quad f(24) = 964$$

11000

$vecimi = \{01000, 10000, 11100, 11010, 11001\}$

$MN = \{8, 16, 28, 26, 25\}$

$$f(8) = 3942$$

$$\Rightarrow 8 \max \quad 8 \rightarrow 10$$

$$f(16) = 3236$$

actualizez $⑨ \rightarrow ④$

$$f(28) = 212$$

$$① \rightarrow ⑤ \rightarrow ③ \rightarrow ⑧ \rightarrow ⑨ \rightarrow ④$$

$$f(26) = 516$$

$$② \rightarrow ⑥ \rightarrow ⑦ \rightarrow ⑩ \rightarrow ⑪$$

$$f(25) = 425$$

$$③ \rightarrow ⑨ \rightarrow ⑫ \rightarrow ⑬ \rightarrow ⑭$$

$$f(31) = 425$$

$$④ \rightarrow ⑮ \rightarrow ⑯ \rightarrow ⑰ \rightarrow ⑱$$

$$f(30) = 425$$

$$⑤ \rightarrow ⑯ \rightarrow ⑰ \rightarrow ⑱ \rightarrow ⑲$$

$$pt \ x = 25 \quad f(25) = 725$$

$$vecimi = \{01001, 10001, 11101, 11011, 11000\}$$

$$MR = \{9, 14, 29, 24, 24\}$$

$$f(9) = 4069$$

$$f(14) = 2973 \Rightarrow 9 \text{ max}$$

$$f(29) = 129$$

actualizar (señala óptima)

$$f(24) = 343$$

$$f(24) = 964$$

$$pt \ x = 26 \quad f(26) = 516$$

$$vecimi = \{01010, 10010, 11110, 11000, 11011\}$$

$$MR = \{10, --\}$$

10 max global actualizar

$$pt \ x = 24 \quad f(24) = 343$$

$$vecimi = \{01011, 10011, 11111, 11001, 11010\}$$

$$MR = \{11, 19, 31, 17, 26\}$$

$$f(11) = 4071$$

$$f(19) = 2399$$

\Rightarrow max 11

$$f(31) = 131$$

actualizar

$$f(17) = 2943$$

$$f(26) = 516$$

$$pt \ x = 28 \quad f(28) = 212$$

$$vecimi = \{01100, 10100, 11000, 11110, 11101\}$$

$$MR = \{12, 20, 24, 30, 29\}$$

$$f(12) = 3988$$

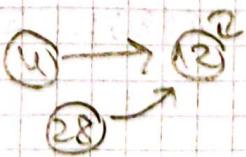
$$f(20) = 2100$$

$\Rightarrow 12$ actualiza

$$f(24) = 964$$

$$f(30) = 100$$

$$f(29) = 129$$



$$pt \ x = 29 \quad f(29) = 129$$

11101

vecimi = {01101, 10101, 11001, 11111, 11100}

MN = {13, 21, 25, 31, 28}

$$f(13) = 3854$$

$$f(21) = 1801$$

$$f(25) = 425$$

$$f(31) = 131$$

$$f(28) = 212$$

$$pt \ x = 30 \quad f(30) = 100$$

11110

vecimi = {01110, 10110, 11010, 11100, 11111}

MN = {14, 22, 26, 28, 31}

$$f(14) = 3684$$

$$f(22) = 1508$$

$$f(26) = 516$$

$$f(28) = 212$$

$$f(31) = 131$$

$$pt \ x = 31 \quad f(31) = 131$$

11111

vecimi = {01111, 10111, 11011, 11101, 11110}

MN = {15, 23, 24, 29, 30}

$$f(15) = 3445$$

$$f(23) = 1224$$

$$f(24) = 343$$

$$f(29) = 129$$

$$f(30) = 100$$

\Rightarrow merge in 13 actualized

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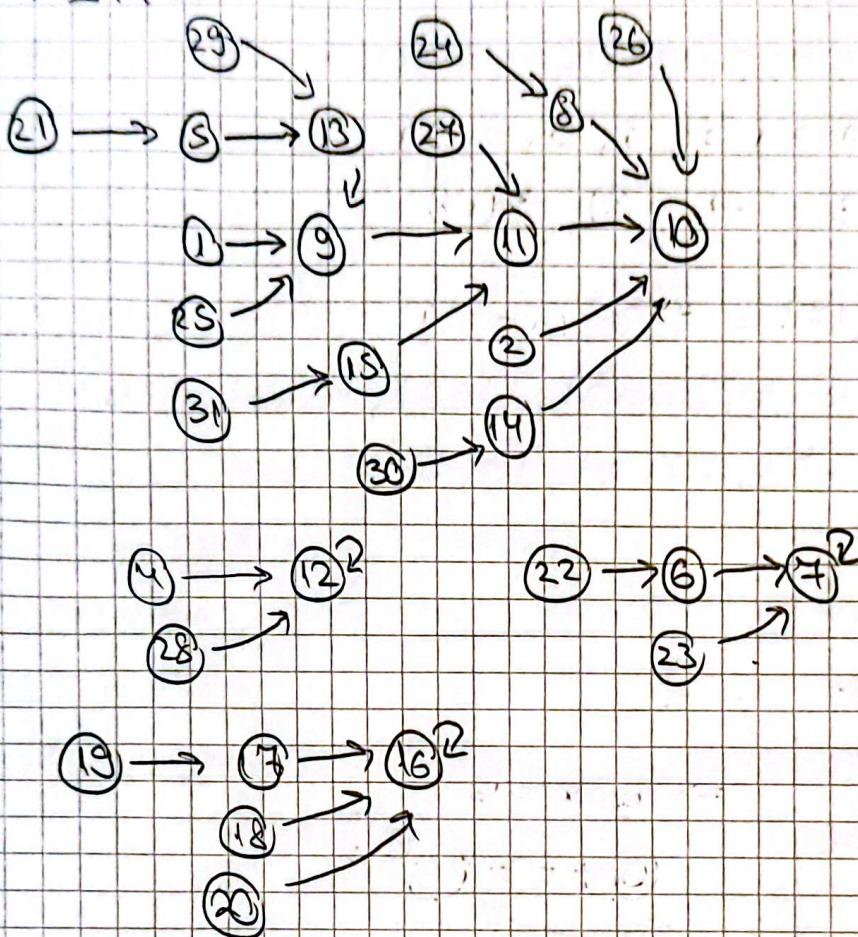
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FINAL:



$$\Rightarrow \{1, 2, 3, 5, 8, 9, 10, 11, 13, 14, 15, 21, 24, 25, 26, 27, 28, 30, 31\} \Rightarrow 10$$

$$\{4, 12, 28\} \Rightarrow 12$$

$$\{6, 7, 22, 23\} \Rightarrow 4$$

$$\{16, 14, 18, 19, 20\} \Rightarrow 16$$

FIRST IMPROVEMENT

$$\text{pt } x=0 \quad f(0)=100$$

$$\text{vec}_m = \{100000, 010000, 001000, 000010, 000001\}$$

$$MR = \{16, 8, 4, 2, 1\}$$

$$f(16) = 3236 \Rightarrow ② \rightarrow ⑯$$

$$\text{pt } x=16 \quad f(16)=3236$$

$$\text{vec}_m = \{000000, 110000, 101000, 100100, 100010\}$$

$$f(0)=100$$

$$f(18)=2943$$

\Rightarrow new value 16

$$f(24)=964$$

$$f(20)=2100$$

$$② \rightarrow ⑯^2$$

$$\text{pt } x=1 \quad f(1) = 941$$

$$\text{vecini} = \{10001, 01001, 00101, 00011, 00001\}$$

$$MR = \{14, 9, 5, 3, 0\}$$

$$f(14) = 2943 \Rightarrow ① \rightarrow ⑭$$

$$\text{pt } x=14 \quad f(14) = 2943$$

$$\text{vecini} = \{00001, 11001, 10101, 10011, 10000\}$$

$$MR = \{1, 25, 21, 19, 16\}$$

$$f(1) = 941$$

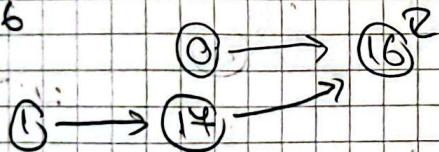
$$f(25) = 425$$

$$f(21) = 1801$$

$$f(19) = 2399$$

$$\Rightarrow \max = 16$$

$$f(16) = 3236$$



$$\text{pt } x=2 \quad f(2) = 1668$$

$$\text{vecini} = \{10010, 01010, 00110, 00000, 00011\}$$

$$MR = \{18, 10, 6, 0, 3\}$$

$$f(18) = 2692 \Rightarrow ② \rightarrow ⑧$$

$$\text{pt } x=18 \quad f(18) = 2692$$

$$\text{vecini} = \{00010, 11010, 10110, 10000, 10011\}$$

$$MR = \{2, 26, 22, 16, 19\}$$

$$f(2) = 1668$$

$$\Rightarrow 16 \max$$

$$f(26) = 516$$

$$① \rightarrow ⑯^2$$

$$f(22) = 1508$$

$$① \rightarrow ⑭ \rightarrow ⑧$$

$$f(16) = 3236$$

$$② \rightarrow ⑧$$

$$pt x=3 \quad f(3) = 2284$$

$\underset{00011}{vecini} = \{10011, 01011, 00111, 00001, 00010\}$

$MN = \{19, 11, 4, 1, 2\}$

$$f(19) = 2399 \Rightarrow ③ \rightarrow ⑨$$

$$pt x=19 \quad f(19) = 2399$$

$\underset{10011}{vecini} = \{00011, 11011, 10111, 10001, 10010\}$

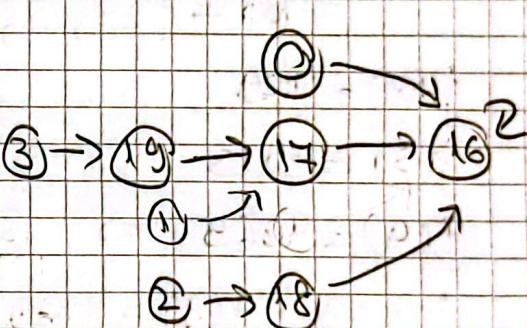
$MN = \{3, 24, 23, 14, 18\}$

$$f(3) = 2284$$

$$f(24) = 343$$

$$f(23) = 1224$$

$$f(14) = 2943 \Rightarrow (4 \text{ max})$$



$$pt x=4 \quad f(4) = 2804$$

$\underset{00100}{vecini} = \{10100, 01100, 00000, 00110, 00101\}$

$MN = \{20, 12, 0, 6, 5\}$

$$f(20) = 2100$$

$$f(12) = 3988 \Rightarrow ④ \rightarrow ⑬$$

$$pt x=12 \quad f(12) = 3988$$

$\underset{01100}{vecini} = \{11100, 00100, 01000, 01110, 01101\}$

$MN = \{28, 4, 8, 14, 13\}$

$$f(28) = 212$$

$$f(4) = 2804$$

\Rightarrow Remaining ⑫

$$④ \rightarrow ⑫^2$$

$$f(8) = 3942$$

$$f(14) = 3684$$

$$f(13) = 3854$$

$$pt \quad x=5 \quad f(5)=3225$$

$$\text{vecini} = \{10101, 01101, 00001, 00111, 00100\}$$

$$nn = \{21, 13, 1, 4, 5\}$$

$$f(21) = 1801$$

$$f(13) = 3854 \Rightarrow ⑤ \rightarrow ⑬$$

$$pt \quad x=13 \quad f(13)=3854$$

$$\text{vecini} = \{11101, 00101, 01001, 01111, 01100\}$$

$$nn = \{29, 5, 9, 15, 12\}$$

$$f(29) = 129$$

$$f(5) = 3225$$

$$f(9) = 4069 \Rightarrow ⑤ \rightarrow ⑬ \rightarrow ⑨$$

$$pt \quad x=9 \quad f(9)=4069$$

$$\text{vecini} = \{11001, 00001, 01101, 01011, 01000\}$$

$$nn = \{25, 1, 13, 11, 8\}$$

$$f(25) = 425$$

$$f(1) = 941$$

$$f(13) = 3854 \Rightarrow ⑪ \quad ⑤ \rightarrow ⑬ \rightarrow ⑨ \rightarrow ⑪$$

$$f(11) = 4041$$

$$pt \quad x=11 \quad f(11)=4041$$

$$\text{vecini} = \{11011, 00011, 01111, 01001, 01010\}$$

$$nn = \{27, 3, 15, 9, 10\}$$

$$f(27) = 343$$

$$f(3) = 2284$$

$\Rightarrow ⑩$

$$f(15) = 3445$$

$$f(9) = 4069$$

$$f(10) = 4100$$

$$⑤ \rightarrow ⑬ \rightarrow ⑨ \rightarrow ⑪ \rightarrow ⑩$$

(10 max)

$$pt \ x = 6 \quad f(6) = 3556$$

$$\begin{aligned} & \text{vecini} = \{10110, 01110, 00010, 00100, 00111\} \\ & M\Omega = \{22, 14, 2, 4, *\} \end{aligned}$$

$$f(22) = 1508$$

$$f(14) = 3684 \Rightarrow \textcircled{6} \rightarrow \textcircled{14}$$

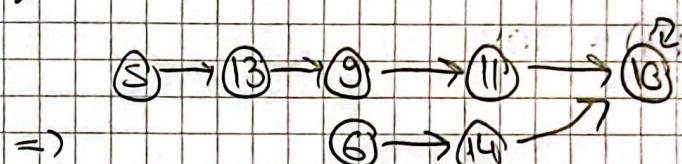
$$pt \ x = 14 \quad f(14) = 3684$$

$$\begin{aligned} & \text{vecini} = \{11110, 00110, 01010, 01100, 01111\} \\ & M\Omega = \{30, 6, 10, 12, 15\} \end{aligned}$$

$$f(30) = 100$$

$$f(6) = 3556$$

$$f(10) = 4100$$



$$pt \ x = * \quad f(*) = 3803$$

00111

$$\begin{aligned} & \text{vecini} = \{10111, 01111, 00011, 00101, 00110\} \\ & M\Omega = \{23, 15, 3, 5, 6\} \end{aligned}$$

$$f(23) = 1227$$

$$f(15) = 3445 \Rightarrow \text{na w\ddot{o}cie}$$

$$f(3) = 2284$$

$$f(5) = 3225$$

$$f(6) = 3556$$

$$pt \ x = 8 \quad f(8) = 3942$$

01000

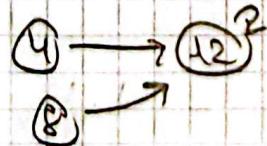
$$\text{vecini} = \{11000, 00000, 01100, 01010, 01001\}$$

$$M\Omega = \{24, 0, 12, 10, 9\}$$

$$f(24) = 964$$

$$f(0) = 100$$

$$f(12) = 3988 \Rightarrow$$



$$pt \ x = 15 \quad f(15) = 3445$$

01111

vecini = {11111, 00111, 01011, 01101, 01110}

MN = {31, 4, 11, 13, 14}

$$f(31) = 131$$

$$\Rightarrow 15 \rightarrow 4^2$$

$$f(4) = 3803$$

$$pt \ x = 20 \quad f(20) = 2100$$

10100

vecini = {00100, 11100, 10000, 10110, 10101}

MN = {4, 28, 16, 22, 21}

$$f(4) = 2804 \Rightarrow 20 \rightarrow 4 \rightarrow 12^2$$

8

$$pt \ x = 21 \quad f(21) = 1801$$

10101

vecini = {00101, 11101, 10001, 10111, 10100}

MN = {5, 29, 14, 23, 20} 23 25 24 26

$$f(5) = 3225 \Rightarrow 21 \rightarrow 5 \rightarrow 13 \rightarrow 9 \rightarrow 11 \rightarrow 10^2$$

29

22

6

14

30

$$pt \ x = 22 \quad f(22) = 1508$$

10110

vecini = {00110, 11110, 10010, 10100, 10111}

MN = {6, 30, 18, 20, 23}

$$f(6) = 3556 \Rightarrow \text{adaug } 22 \text{ la 6}$$

$$pt \ x = 23 \quad f(23) = 1227$$

10111

vecini = {00111, 11111, 10011, 10101, 10110}

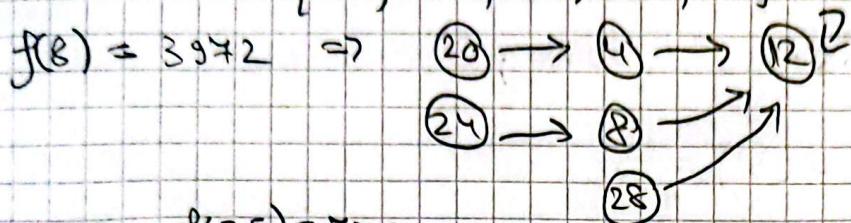
MN = {13, 31, 19, 21, 22}

$$f(13) = 3854 \Rightarrow \text{adaug } 23$$

$$\text{pt } x=24 \quad f(24)=964$$

$$\text{vecini} = \{01000, 10000, 11100, 11010, 11001\}$$

$$M_2 = \{8, 16, 28, 26, 25\}$$



$$\text{pt } x=25 \quad f(25)=725$$

11001

$$\text{vecini} = \{01001, 10001, 11101, 11011, 11000\}$$

$$M_2 = \{9, 14, 29, 27, 20\}$$

$$f(9) = 4069 \Rightarrow \text{adang 9}$$

$$\text{pt } x=26 \quad f(26)=516$$

11010

$$\text{vecini} = \{01010, 10010, 11100, 11000, 11011\}$$

$$M_2 = \{10, 18, 30, 24, 27\}$$

$$f(10) = 4100 \Rightarrow \text{adang 26}$$

$$\text{pt } x=27 \quad f(27)=343$$

11011

$$\text{vecini} = \{01011, 10011, 11111, 11001, 11010\}$$

$$M_2 = \{11, \dots\}$$

$$f(11) = 4041 \Rightarrow \text{adang 27}$$

$$\text{pt } x=28 \quad f(28)=212$$

11100

$$\text{vecini} = \{01100, 10100, 11000, 11110, 11101\}$$

$$M_2 = \{12, \dots\}$$

$$f(12) = 3988 \Rightarrow \text{adang 28}$$

$$\text{pt } x=29 \quad f(29)=129$$

11101

$$\text{vecini} = \{01101, 10101, 11001, 11111, 11100\}$$

$$M_2 = \{13, 21, 25, 31, 28\}$$

$$f(13) = 3854 \Rightarrow \text{adang 29}$$

$$pt \times = 30 \quad f(30) = 100$$

$\text{vecini} = \{01110, 10110, 11010, 11100, 11111\}$

$m_2 = \{14, 22, -\}$

$$f(14) = 3684 \Rightarrow \text{adang } 30$$

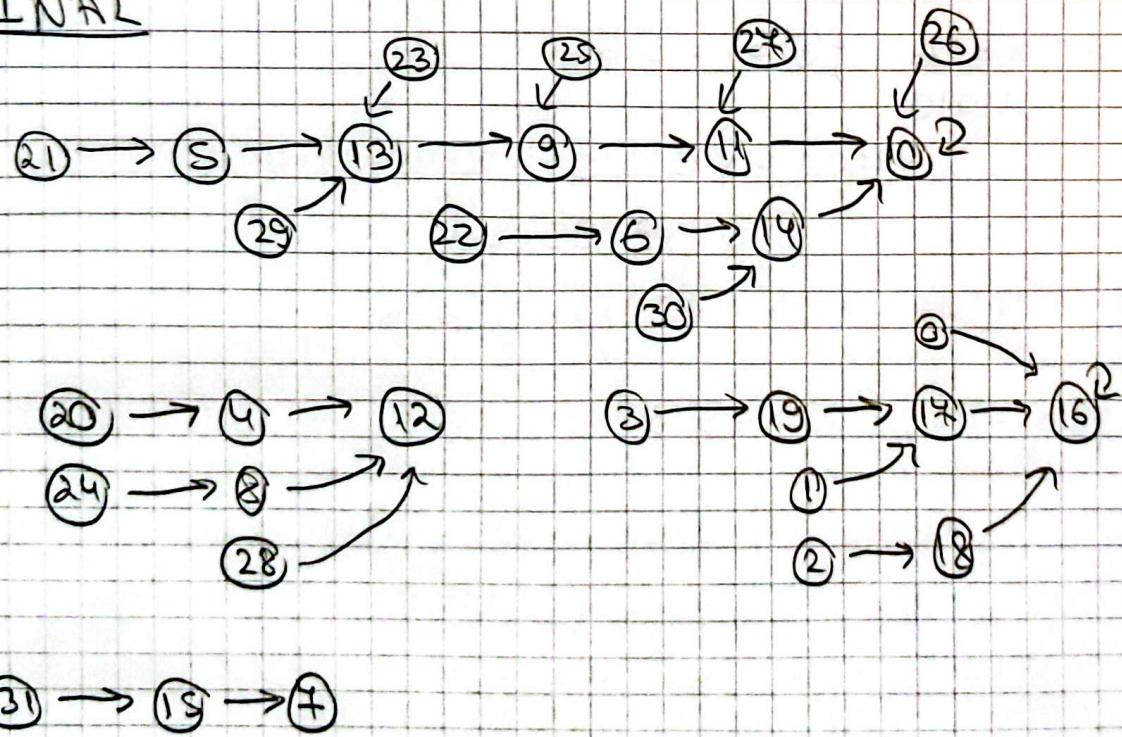
$$pt \times = 31 \quad f(31) = 13$$

$\text{vecini} = \{01111, 10111, 11011, 11101, 11110\}$

$m_2 = \{15, 23, 24, 29, 30\}$

$$f(15) = 3443$$

FINAL



$$\{0, 1, 2, 3, 16, 14, 18, 19\} \Rightarrow 16$$

$$\{4, 8, 12, 20, 24, 28\} \Rightarrow 12$$

$$\{5, 6, 9, 10, 11, 13, 14, 21, 22, 23, 25, 26, 27, 29, 30\} \Rightarrow 10$$

$$\{4, 15, 31\} \Rightarrow 4$$

Ambonile best improvement este mai manifest în ce
mai putine niveluri ceea ce sugerează un nr mai
mic de pasi