

I primi 100 Polinomi ciclotomici

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$\Phi_1(x) = x - 1$
$\Phi_2(x) = x + 1$
$\Phi_3(x) = x^2 + x + 1$
$\Phi_4(x) = x^2 + 1$
$\Phi_5(x) = x^4 + x^3 + x^2 + x + 1$
$\Phi_6(x) = x^2 - x + 1$
$\Phi_7(x) = x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_8(x) = x^4 + 1$
$\Phi_9(x) = x^6 + x^3 + 1$
$\Phi_{10}(x) = x^4 - x^3 + x^2 - x + 1$
$\Phi_{11}(x) = x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{12}(x) = x^4 - x^2 + 1$
$\Phi_{13}(x) = x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{14}(x) = x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{15}(x) = x^8 - x^7 + x^5 - x^4 + x^3 - x + 1$
$\Phi_{16}(x) = x^8 + 1$
$\Phi_{17}(x) = x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{18}(x) = x^6 - x^3 + 1$
$\Phi_{19}(x) = x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{20}(x) = x^8 - x^6 + x^4 - x^2 + 1$
$\Phi_{21}(x) = x^{12} - x^{11} + x^9 - x^8 + x^6 - x^4 + x^3 - x + 1$
$\Phi_{22}(x) = x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{23}(x) = x^{22} + x^{21} + x^{20} + x^1 + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{24}(x) = x^8 - x^4 + 1$
$\Phi_{25}(x) = x^{20} + x^{15} + x^{10} + x^5 + 1$
$\Phi_{26}(x) = x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{27}(x) = x^{18} + x^9 + 1$
$\Phi_{28}(x) = x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1$
$\Phi_{29}(x) = x^{28} + x^{27} + x^{26} + x^{25} + x^{24} + x^{23} + x^{22} + x^{21} + x^{20} + x^{19} + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{30}(x) = x^8 + x^7 - x^5 - x^4 - x^3 + x + 1$
$\Phi_{31}(x) = x^{30} + x^{29} + x^{28} + x^{27} + x^{26} + x^{25} + x^{24} + x^{23} + x^{22} + x^{21} + x^{20} + x^{19} + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{32}(x) = x^{16} + 1$
$\Phi_{33}(x) = x^{20} - x^{19} + x^{17} - x^{16} + x^{14} - x^{13} + x^{11} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1$
$\Phi_{34}(x) = x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{35}(x) = x^{24} - x^{23} + x^{19} - x^{18} + x^{17} - x^{16} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^8 + x^7 - x^6 + x^5 - x + 1$
$\Phi_{36}(x) = x^{12} - x^6 + 1$
$\Phi_{37}(x) = x^{36} + x^{35} + x^{34} + x^{33} + x^{32} + x^{31} + x^{30} + x^{29} + x^{28} + x^{27} + x^{26} + x^{25} + x^{24} + x^{23} + x^{22} + x^{21} + x^{20} + x^{19} + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{38}(x) = x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{39}(x) = x^{24} - x^{23} + x^{21} - x^{20} + x^{18} - x^{17} + x^{15} - x^{14} + x^{12} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1$
$\Phi_{40}(x) = x^{16} - x^{12} + x^8 - x^4 + 1$
$\Phi_{41}(x) = x^{40} + x^{39} + x^{38} + x^{37} + x^{36} + x^{35} + x^{34} + x^{33} + x^{32} + x^{31} + x^{30} + x^{29} + x^{28} + x^{27} + x^{26} + x^{25} + x^{24} + x^{23} + x^{22} + x^{21} + x^{20} + x^{19} + x^{18} + x^{17} + x^{16} + x^{15} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{42}(x) = x^{12} + x^{11} - x^9 - x^8 + x^6 - x^4 - x^3 + x + 1$
$\Phi_{43}(x) = x^{42} + x^{41} + x^{40} + x^{39} + x^{38} + x^{37} + x^{36} + x^{35} + \dots + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} + x^9 + x^8 + x^7 + x^6 + x^5 + x^4 + x^3 + x^2 + x + 1$
$\Phi_{44}(x) = x^{20} - x^{18} + x^{16} - x^{14} + x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1$
$\Phi_{45}(x) = x^{24} - x^{21} + x^{15} - x^{12} + x^9 - x^3 + 1$
$\Phi_{46}(x) = x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + \dots - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1$
$\Phi_{47}(x) = x^{46} + x^{45} + x^{44} + \dots + x^2 + x + 1$
$\Phi_{48}(x) = x^{16} - x^8 + 1$
$\Phi_{49}(x) = x^{42} + x^{35} + x^{28} + x^{21} + x^{14} + x^7 + 1$
$\Phi_{50}(x) = x^{20} - x^{15} + x^{10} - x^5 + 1$

$$\begin{aligned} \Phi_{51}(x) &= x^{32} - x^{31} + x^{29} - x^{28} + x^{26} - x^{25} + x^{23} - x^{22} + x^{20} - x^{19} + x^{17} - x^{16} + x^{15} - x^{13} + x^{12} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1 \\ \Phi_{52}(x) &= x^{24} - x^{22} + x^{20} - x^{18} + x^{16} - x^{14} + x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1 \\ \Phi_{53}(x) &= x^{52} + x^{51} + x^{50} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{54}(x) &= x^{18} - x^9 + 1 \\ \Phi_{55}(x) &= x^{40} - x^{39} + x^{35} - x^{34} + x^{30} - x^{28} + x^{25} - x^{23} + x^{20} - x^{17} + x^{15} - x^{12} + x^{10} - x^6 + x^5 - x + 1 \\ \Phi_{56}(x) &= x^{24} - x^{20} + x^{16} - x^{12} + x^8 - x^4 + 1 \\ \Phi_{57}(x) &= x^{36} - x^{35} + x^{33} - x^{32} + x^{30} - x^{29} + x^{27} - x^{26} + x^{24} - x^{23} + x^{21} - x^{20} + x^{18} - x^{16} + x^{15} - x^{13} + x^{12} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1 \\ \Phi_{58}(x) &= x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - x^{23} + x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + \\ &\quad + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{59}(x) &= x^{58} + x^{57} + x^{56} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{60}(x) &= x^{16} + x^{14} - x^{10} - x^8 - x^6 + x^2 + 1 \\ \Phi_{61}(x) &= x^{60} + x^{59} + x^{58} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{62}(x) &= x^{30} - x^{29} + x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - x^{23} + x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + \\ &\quad + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{63}(x) &= x^{36} - x^{33} + x^{27} - x^{24} + x^{18} - x^{12} + x^9 - x^3 + 1 \\ \Phi_{64}(x) &= x^{32} + 1 \\ \Phi_{65}(x) &= x^{48} - x^{47} + x^{43} - x^{42} + x^{38} - x^{37} + x^{35} - x^{34} + x^{33} - x^{32} + x^{30} - x^{29} + x^{28} - x^{27} + x^{25} - x^{24} + x^{23} - x^{21} + x^{20} - x^{19} + x^{18} - x^{16} + x^{15} - \\ &\quad - x^{14} + x^{13} - x^{11} + x^{10} - x^6 + x^5 - x + 1 \\ \Phi_{66}(x) &= x^{20} + x^{19} - x^{17} - x^{16} + x^{14} + x^{13} - x^{11} - x^{10} - x^9 + x^7 + x^6 - x^4 - x^3 + x + 1 \\ \Phi_{67}(x) &= x^{66} + x^{65} + x^{64} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{68}(x) &= x^{32} - x^{30} + x^{28} - x^{26} + x^{24} - x^{22} + x^{20} - x^{18} + x^{16} - x^{14} + x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1 \\ \Phi_{69}(x) &= x^{44} - x^{43} + x^{41} - x^{40} + x^{38} - x^{37} + x^{35} - x^{34} + x^{32} - x^{31} + x^{29} - x^{28} + x^{26} - x^{25} + x^{23} - x^{22} + x^{21} - x^{19} + x^{18} - x^{16} + x^{15} - x^{13} + x^{12} - \\ &\quad - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1 \\ \Phi_{70}(x) &= x^{24} + x^{23} - x^{19} - x^{18} - x^{17} - x^{16} + x^{14} + x^{13} + x^{12} + x^{11} + x^{10} - x^8 - x^7 - x^6 - x^5 + x + 1 \\ \Phi_{71}(x) &= x^{70} + x^{69} + x^{68} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{72}(x) &= x^{24} - x^{12} + 1 \\ \Phi_{73}(x) &= x^{72} + x^{71} + x^{70} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{74}(x) &= x^{36} - x^{35} + x^{34} - x^{33} + x^{32} - x^{31} + x^{30} - x^{29} + x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - x^{23} + x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - \\ &\quad - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{75}(x) &= x^{40} - x^{35} + x^{25} - x^{20} + x^{15} - x^5 + 1 \\ \Phi_{76}(x) &= x^{36} - x^{34} + x^{32} - x^{30} + x^{28} - x^{26} + x^{24} - x^{22} + x^{20} - x^{18} + x^{16} - x^{14} + x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1 \\ \Phi_{77}(x) &= x^{60} - x^{59} + x^{53} - x^{52} + x^{49} - x^{48} + x^{46} - x^{45} + x^{42} - x^{41} + x^{39} - x^{37} + x^{35} - x^{34} + x^{32} - x^{30} + x^{28} - x^{26} + x^{25} - x^{23} + x^{21} - x^{19} + x^{18} - \\ &\quad - x^{15} + x^{14} - x^{12} + x^{11} - x^8 + x^7 - x + 1 \\ \Phi_{78}(x) &= x^{24} + x^{23} - x^{21} - x^{20} + x^{18} + x^{17} - x^{15} - x^{14} + x^{12} - x^{10} - x^9 + x^7 + x^6 - x^4 - x^3 + x + 1 \\ \Phi_{79}(x) &= x^{78} + x^{77} + x^{76} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{80}(x) &= x^{32} - x^{24} + x^{16} - x^8 + 1 \\ \Phi_{81}(x) &= x^{54} + x^{27} + 1 \\ \Phi_{82}(x) &= x^{40} - x^{39} + x^{38} - x^{37} + x^{36} - x^{35} + x^{34} - x^{33} + x^{32} - x^{31} + x^{30} - x^{29} + x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - x^{23} + x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - \\ &\quad - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{83}(x) &= x^{82} + x^{81} + x^{80} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{84}(x) &= x^{24} + x^{22} - x^{18} - x^{16} + x^{12} - x^8 - x^6 + x^2 + 1 \\ \Phi_{85}(x) &= x^{64} - x^{63} + x^{59} - x^{58} + x^{54} - x^{53} + x^{49} - x^{48} + x^{47} - x^{46} + x^{44} - x^{43} + x^{42} - x^{41} + x^{39} - x^{38} + x^{37} - x^{36} + x^{34} - x^{33} + x^{32} - x^{31} + x^{30} - \\ &\quad - x^{28} + x^{27} - x^{26} + x^{25} - x^{23} + x^{22} - x^{21} + x^{20} - x^{18} + x^{17} - x^{16} + x^{15} - x^{11} + x^{10} - x^6 + x^5 - x + 1 \\ \Phi_{86}(x) &= x^{42} - x^{41} + x^{40} - x^{39} + x^{38} - x^{37} + x^{36} - x^{35} + x^{34} - x^{33} + x^{32} - x^{31} + x^{30} - x^{29} + x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - x^{23} + x^{22} - x^{21} + x^{20} - \\ &\quad - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{87}(x) &= x^{56} - x^{55} + x^{53} - x^{52} + x^{50} - x^{49} + x^{47} - x^{46} + x^{44} - x^{43} + x^{41} - x^{40} + x^{38} - x^{37} + x^{35} - x^{34} + x^{32} - x^{31} + x^{29} - x^{28} + x^{27} - x^{25} + x^{24} - \\ &\quad - x^{22} + x^{21} - x^{19} + x^{18} - x^{16} + x^{15} - x^{13} + x^{12} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1 \\ \Phi_{88}(x) &= x^{40} - x^{36} + x^{32} - x^{28} + x^{24} - x^{20} + x^{16} - x^{12} + x^8 - x^4 + 1 \\ \Phi_{89}(x) &= x^{88} + x^{87} + x^{86} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{90}(x) &= x^{24} + x^{21} - x^{15} - x^{12} - x^9 + x^3 + 1 \\ \Phi_{91}(x) &= x^{72} - x^{71} + x^{65} - x^{64} + x^{59} - x^{57} + x^{52} - x^{50} + x^{46} - x^{43} + x^{39} - x^{36} + x^{33} - x^{29} + x^{26} - x^{22} + x^{20} - x^{15} + x^{13} - x^8 + x^7 - x + 1 \\ \Phi_{92}(x) &= x^{44} - x^{42} + x^{40} - x^{38} + x^{36} - x^{34} + x^{32} - x^{30} + x^{28} - x^{26} + x^{24} - x^{22} + x^{20} - x^{18} + x^{16} - x^{14} + x^{12} - x^{10} + x^8 - x^6 + x^4 - x^2 + 1 \\ \Phi_{93}(x) &= x^{60} - x^{59} + x^{57} - x^{56} + x^{54} - x^{53} + x^{51} - x^{50} + x^{48} - x^{47} + x^{45} - x^{44} + x^{42} - x^{41} + x^{39} - x^{38} + x^{36} - x^{35} + x^{33} - x^{32} + x^{30} - x^{28} + x^{27} - \\ &\quad - x^{25} + x^{24} - x^{22} + x^{21} - x^{19} + x^{18} - x^{16} + x^{15} - x^{13} + x^{12} - x^{10} + x^9 - x^7 + x^6 - x^4 + x^3 - x + 1 \\ \Phi_{94}(x) &= x^{46} - x^{45} + x^{44} - x^{43} + x^{42} - x^{41} + x^{40} - x^{39} + x^{38} - x^{37} + x^{36} - x^{35} + x^{34} - x^{33} + x^{32} - x^{31} + x^{30} - x^{29} + x^{28} - x^{27} + x^{26} - x^{25} + x^{24} - \\ &\quad - x^{23} + x^{22} - x^{21} + x^{20} - x^{19} + x^{18} - x^{17} + x^{16} - x^{15} + x^{14} - x^{13} + x^{12} - x^{11} + x^{10} - x^9 + x^8 - x^7 + x^6 - x^5 + x^4 - x^3 + x^2 - x + 1 \\ \Phi_{95}(x) &= x^{72} - x^{71} + x^{67} - x^{66} + x^{62} - x^{61} + x^{57} - x^{56} + x^{53} - x^{51} + x^{48} - x^{46} + x^{43} - x^{41} + x^{38} - x^{36} + x^{34} - x^{31} + x^{29} - x^{26} + x^{24} - x^{21} + x^{19} - \\ &\quad - x^{16} + x^{15} - x^{11} + x^{10} - x^6 + x^5 - x + 1 \\ \Phi_{96}(x) &= x^{32} - x^{16} + 1 \\ \Phi_{97}(x) &= x^{96} + x^{95} + x^{94} + \dots + x^4 + x^3 + x^2 + x + 1 \\ \Phi_{98}(x) &= x^{42} - x^{35} + x^{28} - x^{21} + x^{14} - x^7 + 1 \\ \Phi_{99}(x) &= x^{60} - x^{57} + x^{51} - x^{48} + x^{42} - x^{39} + x^{33} - x^{30} + x^{27} - x^{21} + x^{18} - x^{12} + x^9 - x^3 + 1 \\ \Phi_{100}(x) &= x^{40} - x^{30} + x^{20} - x^{10} + 1 \end{aligned}$$