

THE SECRET OF EXPERIENCE POINT IN T4C

1. The formula

x = Level

$$Xp(x) = \left(1000 + \sum_{i=1}^{x-1} P_i \right) * (x - 1)^{2.5}$$

$$P_i = P_{i-1} + t_i$$

$$P_1 = 10$$

*Written by Aequirius, do not use
without my explicit permission
aequirius@pandora.be*

```
1 <= i <= 42 => t_i = 0
43 <= i <= 82 => t_i = 1
83 <= i <= 122 => t_i = 4
123 <= i <= 142 => t_i = 16
143 <= i <= 162 => t_i = 64
163 <= i <= 182 => t_i = 256
183 <= i <= 192 => t_i = 1024
193 <= i => t_i = 4096
```

2. Example of implementation in C

```
/* Recursive call to calculate Pi = Pi-1 + tx
   with p1 = 10 to stop recursive call */
int coefp(int x)
{
    return (x == 1 ? 10 : coefp(x - 1) + (x > 192 ?
    4096 : (x > 182 ? 1024 : (x > 162 ? 256 : (x >
    142 ? 64 : (x > 122 ? 16 : ( x > 82 ? 4 : (x >
    42 ? 1 : 0 ) ) ) ) ) ) ) );
}

/* Calculate the sum and call recursive function to
   calculate Pi */
int coef(int x)
{
    int n = 0;
    for (int i = 1; i < x; ++i) n += coefp(i);
    return 1000 + n;
}

/* Calculate the total XP */
_int64 xp(int level)
{
    return _int64(coef(level - 1)*pow(level - 1, 2.5));
}
```

3. Example of output

Level 1 = 0	Level 26 = 3875000	Level 51 = 26834702	Level 76 = 110483190
Level 2 = 1000	Level 27 = 4308671	Level 52 = 28530977	Level 77 = 116368095
Level 3 = 5713	Level 28 = 4772873	Level 53 = 30320667	Level 78 = 122523028
Level 4 = 15900	Level 29 = 5268643	Level 54 = 32208480	Level 79 = 128957839
Level 5 = 32960	Level 30 = 5797022	Level 55 = 34199305	Level 80 = 135682607
Level 6 = 58137	Level 31 = 6359058	Level 56 = 36298212	Level 81 = 142707647
Level 7 = 92590	Level 32 = 6955808	Level 57 = 38510454	Level 82 = 150043509
Level 8 = 137420	Level 33 = 7588330	Level 58 = 40841471	Level 83 = 157700981
Level 9 = 193690	Level 34 = 8257693	Level 59 = 43296888	Level 84 = 165691091
Level 10 = 262440	Level 35 = 8964971	Level 60 = 45882525	Level 85 = 174219116
Level 11 = 344688	Level 36 = 9711244	Level 61 = 48604391	Level 86 = 183314046
Level 12 = 441442	Level 37 = 10497600	Level 62 = 51468694	Level 87 = 193005738
Level 13 = 553702	Level 38 = 11325130	Level 63 = 54481835	Level 88 = 203324924
Level 14 = 682458	Level 39 = 12194936	Level 64 = 57650418	Level 89 = 214303219
Level 15 = 828702	Level 40 = 13108125	Level 65 = 60981248	Level 90 = 225973131

Level 16 = 993420	Level 41 = 14065811	Level 66 = 64481332	Level 91 = 238368062
Level 17 = 1177600	Level 42 = 15069112	Level 67 = 68157887	Level 92 = 251522325
Level 18 = 1382229	Level 43 = 16119157	Level 68 = 72018335	Level 93 = 265471143
Level 19 = 1608300	Level 44 = 17217079	Level 69 = 76070309	Level 94 = 280250663
Level 20 = 1856803	Level 45 = 18376860	Level 70 = 80321655	Level 95 = 295897957
Level 21 = 2128736	Level 46 = 19601875	Level 71 = 84780433	Level 96 = 312451036
Level 22 = 2425099	Level 47 = 20895653	Level 72 = 89454921	Level 97 = 329948855
Level 23 = 2746895	Level 48 = 22261887	Level 73 = 94353613	Level 98 = 348431315
Level 24 = 3095133	Level 49 = 23704431	Level 74 = 99485226	Level 99 = 367939280
Level 25 = 3470828	Level 50 = 25227307	Level 75 = 104858697	Level 100 = 388514575
Level 101 = 410200000	Level 126 = 1465323296	Level 151 = 5781959300	Level 176 = 32899851409
Level 102 = 433039331	Level 127 = 1540783411	Level 152 = 6170758734	Level 177 = 35483291015
Level 103 = 457077334	Level 128 = 1621340222	Level 153 = 6588470453	Level 178 = 38237712339
Level 104 = 482359765	Level 129 = 1707200598	Level 154 = 7036146132	Level 179 = 41168436308
Level 105 = 508933382	Level 130 = 1798575648	Level 155 = 7514855880	Level 180 = 44280863557
Level 106 = 536845948	Level 131 = 1895680745	Level 156 = 8025688336	Level 181 = 47580474775
Level 107 = 566146241	Level 132 = 1998735552	Level 157 = 8569750761	Level 182 = 51072831061
Level 108 = 596884059	Level 133 = 2107964046	Level 158 = 9148169130	Level 183 = 54763574262
Level 109 = 629110228	Level 134 = 2223594547	Level 159 = 9762088229	Level 184 = 58658427325
Level 110 = 662876609	Level 135 = 2345859739	Level 160 = 10412671746	Level 185 = 63115894896
Level 111 = 698236100	Level 136 = 2474996699	Level 161 = 11101102361	Level 186 = 68156298166
Level 112 = 735242649	Level 137 = 2611246918	Level 162 = 11828581841	Level 187 = 73800275487
Level 113 = 773951259	Level 138 = 2754856328	Level 163 = 12596331129	Level 188 = 80068783763
Level 114 = 814417991	Level 139 = 2906075325	Level 164 = 13405590439	Level 189 = 86983099849
Level 115 = 856699973	Level 140 = 3065158797	Level 165 = 14323751217	Level 190 = 94564821929
Level 116 = 900855408	Level 141 = 3232366144	Level 166 = 15355130651	Level 191 = 102835870903
Level 117 = 946943578	Level 142 = 3407961305	Level 167 = 16504120960	Level 192 = 111818491760
Level 118 = 995024850	Level 143 = 3592212779	Level 168 = 17775189761	Level 193 = 121535254947
Level 119 = 1045160686	Level 144 = 3785393656	Level 169 = 19172880437	Level 194 = 132009057736
Level 120 = 1097413646	Level 145 = 3999725568	Level 170 = 20701812508	Level 195 = 144873495079
Level 121 = 1151847393	Level 146 = 4236116169	Level 171 = 22366681986	Level 196 = 160214619412
Level 122 = 1208526704	Level 147 = 4495490777	Level 172 = 24172261747	Level 197 = 178119779264
Level 123 = 1267517472	Level 148 = 4778792471	Level 173 = 26123401887	Level 198 = 198677624721
Level 124 = 1328886716	Level 149 = 5086982187	Level 174 = 28225030083	Level 199 = 221978112873
Level 125 = 1394757221	Level 150 = 5421038815	Level 175 = 30482151953	Level 200 = 248112513235