Michael Wang

2.89

|  |
| --- |
| { |
| /\* Result exponent and fraction \*/ |
| unsigned exp, frac; |
| unsigned u; |
|  |
| if (x < -149) { |
| /\* Too small. Return 0.0 \*/ |
| exp = 0; |
| frac = 0; |
| } else if (x < -126) |
| /\* Denormalized result \*/ |
| exp = 0; |
| frac = 1 << (x + 149); |
| } else if (x < 128) |
| /\* Normalized result \*/ |
| exp = x + 127; |
| frac = 0; |
| } else { |
| /\* Too big. Return +infinity \*/ |
| exp = 255; |
| frac = 0; |
| } |
|  |
| /\* Pack exp and frac into 32 bits \*/ |
| u = exp << 23 | frac; |
| /\* Return as float \*/ |
| return u2f(u); |
| } |

2.90)

a)11.001001000111111011011

b)11.001001001001...

c) 9th to the right of the binary point