34.75

3 out 2 = 3/4 = 0.75

1 0 0 0 1 0 . 1 1

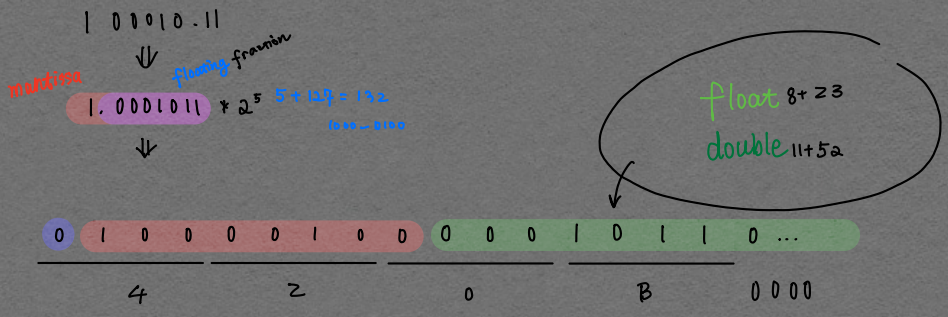
32 16 8 4 2 1 ½ ¼ 0.125 0.0625

= 1.0 0 0 1 0 1 1 * 2^5

8 exponent $2^{-127 \sim 127} \approx 10^{-38 \sim 38}$

3.475 * 10 doesn't work

34.75 ⇒ binary ⇒ binary scientific ⇒ floating point



DIII IIII····

2147483647 = 0x7fff_ffff

round to possible expression

```c
#include <stdio.h>

int main()
{
        float f = 34.75;

        printf("%.2f\n", f);

        int i1 = (int)f;
        printf("%d\n", i1);

        int i2 = *(int*)&f;
        printf("0x%08x\n", i2);

        return 0;
}
```

cast to int 34

cast into an int memory to load as int

dereference

lw

0x420b0000

$\frac{1}{7} = 0.\overline{142857} = \frac{142857}{10^6 - 1}$

$0.1_{10} = \frac{1}{10} = \frac{1}{2} * \frac{1}{5} = \frac{1}{2} * \frac{3}{15} \Rightarrow .0\overline{0011}$ only 4 digits