

## Using Unions to Provide Multiple Views of Data

- A program that *decodes* and *prints* a floating point number.

```
#include <stdio.h>

int main(void)
{
    union dual_float
    { float f;
      struct
      { unsigned int sign: 1;
        unsigned int exponent: 8;
        unsigned int fraction: 23;
      } IEEE_float;
    } dual;

    printf("Enter a float number: ");
    scanf("%f", &dual.f);

    printf("sign = %d, exponenet = %d, fraction = 0x%x\n",
          dual.IEEE_float.sign,
          dual.IEEE_float.exponent,
          dual.IEEE_float.fraction);

    return 0;
}
```