



Weird C

Strange, complicated and fun parts of
the C language

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defines

```
#define A 1+3  
#define B 3+4  
printf("A*B=%i\n",A*B);
```

A*B=14



Too many +s

```
int a=1;  
int b;
```

```
b=a+++a++;  
printf("a=%i, b=%i\n", a, b);
```

a=3, b=3

on virtualbox or

a=3, b=2

on RPI Raspbian



More +s

```
a=1;  
printf("%i, %i, %i, %i\n",a++,a--,++a,--a);
```

0, 1, 1, 1

1, 2, 1, 1

on Virtualbox or

on RPI Raspberian



URLs

```
int main()  
{  
    http://www.stackoverflow.com  
}
```



Time anyone

```
printf("Opening hours are %i to %i\n"  
      ,0730,1730);
```

Opening hours are 472 to 1730



What's in an index

```
char c[]="abcdefgh";  
printf ("%c, %c\n",c[3],3[c]);
```

d, d



The 'Goes To' operator

```
int x;  
for (x = 20; x --> 0;)  
    printf("%i, ", x);  
printf("\n");
```

```
19, 18, 17, 16, 15, 14, 13, 12, 11, 10, 9, 8, 7, 6,  
5, 4, 3, 2, 1, 0,
```




Duffs Device

```
send(to, from, count)
register short *to, *from;
register count;
{
    register n = (count + 7) / 8;
    switch (count % 8) {
    case 0: do { *to = *from++;
    case 7:      *to = *from++;
    case 6:      *to = *from++;
    case 5:      *to = *from++;
    case 4:      *to = *from++;
    case 3:      *to = *from++;
    case 2:      *to = *from++;
    case 1:      *to = *from++;
                } while (--n > 0);
    }
}
```



Function prototypes

```
double foo();  
double foo(double fred)  
{  
    return fred;  
}
```

BUT NOT:

```
double foo(float fred)  
{  
    return (double)fred;  
}
```



The is have it

```
typedef int i;
```

```
void foo()
```

```
{
```

```
    struct i {i i;} i;
```

```
    i: i.i = 3;
```

```
    printf( "%i\n", i.i);
```

```
}
```



FOOBARed part 1

```
#include <stdio.h>
#define ONE
enum
{
    ENUM0,
    ENUM1
};
#if defined(ONE)
    #define DEF        ENUM0
#endif
#if defined(TWO)
    #define DEF        ENUM1
#endif
```



FOOBARed part 2

```
int main()
{
    #if (FRED == RUBBISH)
        printf ("FRED == RUBBISH\n");
    #endif

    #if (DEF == ENUM0)
        printf ("DEF == ENUM0,  DEF = %d,  ENUM0 = %d\n", DEF, ENUM0);
    #endif

    #if (DEF == ENUM1)
        printf ("DEF == ENUM1,  DEF = %d,  ENUM1 = %d\n", DEF, ENUM1);
    #endif

    return 0;
}
```



FooBared part 3

```
FRED == RUBBISH
```

```
DEF == ENUM0,    DEF = 0,    ENUM0 = 0
```

```
DEF == ENUM1,    DEF = 0,    ENUM1 = 1
```



Questions