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(sccz80) bug in optimized expression evaluation of if () containing "unsigned >" comparison (at least) #2311

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⊙ Open   **apws** opened this issue 3 hours ago · 0 comments

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apws commented 3 hours ago • edited ▾

Using minimal example, I can confirm that Z88DK, ONLY sccz80 compiler has bug in some optimizations around "unsigned >" comparison in such cases:
(code shows how expression assigned to result is okay, but expression evaluated inside if () is wrong)

```
#include <stdio.h>

int main()
{
    signed short i = 0;

    signed long a = 0;
    signed long b = 0;

    i=0x1000; a = (signed long) i;
    i=0x9000; b = (signed long) i;

    printf("a=%ld, b=%ld \n\n", a, b);

    signed long *_a_ = &a;
    signed long *_b_ = &b;


    printf("Z88DK BADLY optimized(?) if condition??: \n");
    if ((unsigned long) *_a_ >  (unsigned long) *_b_)
      printf("%ld is 'unsigned >' %ld \n", a, b);
    else
       printf("%ld is 'unsigned <=' %ld \n", a, b);

    printf("OKAY result expression: \n");
    int result = ((unsigned long) *_a_ >  (unsigned long) *_b_);
    if (result)
      printf("%ld is 'unsigned >' %ld \n", a, b);
    else
       printf("%ld is 'unsigned <=' %ld \n", a, b);

}
```

tested compilation this way for CP/M (testscc.com) and ZX Spectrum, both compilers (testscc.tap, testsdcc.tap):

```
zcc +cpm main.c -o testscc.bin -create-app
zcc +zx -v -startup=0 -clib=sdcc_iy -zorg=24800 main.c -o testsdcc.bin -create-app
zcc +zx -v -clib=new -O3 -startup=1 main.c -o testscc.bin -create-app
```

☺

Assignees

No one assigned

Labels

None yet

Projects

None yet

Milestone

No milestone

Development

No branches or pull requests

1 participant

⌗ **suborb** added a commit that referenced this issue 1 hour ago

⬚ Issue #2311: Fix unsigned comparison issue with top 8 bits ⋯   9a0bf13