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var_minix_cc.txt

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```

1  /*//////////////////// var1.c //////////////////////*/
2  long test();
3
4  char ret;
5  int x=100;
6  static int si;
7  static int sj = 23;
8
9  int main(int argc, char **argv, char **envp) {
10     unsigned char uc;
11     static short y = 99;
12     short s;
13     char c;
14     unsigned short us;
15     static int i;
16     unsigned int ui;
17     long l;
18     unsigned long ul;
19
20     if (i < 0) {
21         ui = us + s - c;
22     }
23     else {
24         ul = si - sj * 2;
25     }
26
27     while (sj > 0) {
28         uc = y - 3;
29         sj++;
30     }
31
32     ret = test(ui, i, s, us, c, uc, l, ul, x, y);
33
34     return 0;
35 }
36
37
38 /*//////////////////// test.c //////////////////////*/
39 long test(unsigned int ui, int i, short s, unsigned short us,
40     char c, unsigned char uc, long l, unsigned long ul,
41     int x, short y)
42 {
43     char c1;
44     int i1;
45     char c2;
46
47     ui = 1;
48     i = 2;
49     s = 3;
50     us = 4;
51     c = 5;
52     uc = 6;
53     l = 7;
54     ul = 8;
55     x = 9;
56     y = 10;
57     c1 = 11;
58     c2 = 12;
59     i1 = 13;
60     return ui * 2 + l;
61 }
62

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63

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```

64 .sect .text; .sect .rom; .sect .data; .sect .bss
65 .extern _x
66 .sect .data
67 _x:
68 .data4 100
69 _sj:
70 .extern _main
71 .data4 23
72 .sect .text
73 _main:
74 push ebp
75 mov ebp,esp
76 sub esp,20
77 .sect .data
78 I_1:
79 .data4 99
80 .sect .bss
81 .comm I_2,4
82 .sect .text
83 cmp (I_2),0
84 jns I_4
85 movsx eax,-4(ebp)
86 movzx edx,-8(ebp)
87 add eax,edx
88 movsxb ebx,-5(ebp)
89 sub ebx,eax
90 neg ebx
91 mov -12(ebp),ebx
92 jmp I_7
93 I_4:
94 mov edx,(_sj)
95 sal edx,1
96 sub edx,(_si)
97 neg edx
98 mov -20(ebp),edx
99 I_7:
100 ! kill cc
101 cmp (_sj),0
102 jle I_6
103 movsx eax,(I_1)
104 sub eax,3
105 movb -1(ebp),al
106 inc (_sj)
107 jmp I_7
108 I_6:
109 movsx eax,(I_1)
110 movsxb ebx,-5(ebp)
111 movsx ecx,-4(ebp)
112 push eax
113 push (_x)
114 push -20(ebp)
115 push -16(ebp)
116 movzxb eax,-1(ebp)
117 push eax
118 push ebx
119 movzx eax,-8(ebp)
120 push eax
121 push ecx
122 push (I_2)
123 push -12(ebp)
124 call _test
125 add esp,40
126 movb (_ret),al
127 xor eax,eax
128 leave
129 ret
130 .sect .bss
131 .comm _si,4
132 .extern _ret
133 .comm _ret,4
134 .sect .text
135 .sect .text; .sect .rom; .sect .data; .sect .bss
136 .extern _test

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137 .sect .text
138 _test:
139 push ebp
140 mov ebp,esp
141 sub esp,12
142 mov 8(ebp),1
143 mov 12(ebp),2
144 o16 mov 16(ebp),3
145 o16 mov 20(ebp),4
146 movb 24(ebp),5
147 movb 28(ebp),6
148 mov 32(ebp),7
149 mov 36(ebp),8
150 mov 40(ebp),9
151 o16 mov 44(ebp),10
152 movb -1(ebp),11
153 movb -9(ebp),12
154 mov -8(ebp),13
155 mov edx,8(ebp)
156 sal edx,1
157 add edx,32(ebp)
158 mov eax,edx
159 leave
160 ret
161

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162 .sect .text; .sect .rom; .sect .data; .sect .bss
163 .extern _x
164 .sect .data
165 _x:
166 .data4 100
167 _sj:
168 .extern _main
169 .data4 23
170 .sect .text
171
172 ; main(int argc, char **argv, char **envp) {
173 ;     unsigned char uc;
174 ;     short s;
175 ;     char c;
176 ;     unsigned short us;
177 ;     unsigned int ui;
178 ;     long l;
179 ;     unsigned long ul;
180
181 _main:
182 push ebp
183 mov ebp,esp
184 sub esp,20
185 .sect .data
186 I_1:
187 .data4 99
188 .sect .bss
189 .comm I_2,4
190 .sect .text
191
192 ; if (i < 0) {
193
194 cmp (I_2),0
195 jns I1_4                ; jump not sign (jump if >=)
196
197 ;     ui = us + s - c;
198
199 movsx eax,-4(ebp)        ; -4(ebp): s
200 movzx edx,-8(ebp)        ; -8(ebp): us
201 add eax,edx
202 movsxb ebx,-5(ebp)       ; -5(ebp): c
203 sub ebx,eax
204 neg ebx
205 mov -12(ebp),ebx         ; -12(ebp): ui
206 jmp I1_7
207
208 ; } else {
209 ;     ul = si - sj * 2;
210
211 I1_4:
212 mov edx,(_sj)
213 sal edx,1                ; sal: shift arithmetic left
214 sub edx,(_si)
215 neg edx
216 mov -20(ebp),edx         ; -20(ebp) : ul
217
218 ; }
219
220 I1_7:
221 ! kill cc
222
223 ; while (sj > 0) {
224
225 cmp (_sj),0
226 jle I1_6
227
228 ;     uc = y - 3;
229 ;     sj++;
230
231 movsx eax,(I_1)
232 sub eax,3
233 movb -1(ebp),al          ; -1(ebp) : uc
234 inc (_sj)

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235 jmp I1_7
236
237 ; }
238
239 I1_6:
240
241 ; ret = test(ui, i, s, us, c, uc, l, ul, x, y);
242
243 movsx eax,(I_1)          ; eax <- y
244 movsxb ebx,-5(ebp)       ; ebx <- c
245 movsx ecx,-4(ebp)        ; ecx <- s
246 push eax                 ; push y
247 push (_x)
248 push -20(ebp)            ; push ul
249 push -16(ebp)            ; push l
250 movzxb eax,-1(ebp)       ; -1(ebp): uc
251 push eax                 ; push uc
252 push ebx                 ; push c
253 movzx eax,-8(ebp)        ; -8(ebp): us
254 push eax                 ; push us
255 push ecx                 ; push s
256 push (I_2)               ; push i
257 push -12(ebp)            ; push ui
258 call _test
259 add esp,40
260 movb (_ret),al
261 xor eax,eax
262 leave                    ; leave: set esp to ebp, then pop epb
263 ret
264 .sect .bss
265 .comm _si,4
266 .extern _ret
267 .comm _ret,4
268 .sect .text
269
270 .sect .text; .sect .rom; .sect .data; .sect .bss
271 .extern _test
272 .sect .text
273
274 ; long test(...) {
275
276 _test:
277 push ebp
278 mov ebp,esp
279 sub esp,12
280 mov 8(ebp),1             ; ui = 1;
281 mov 12(ebp),2            ; i = 2;
282 o16 mov 16(ebp),3        ; s = 3;
283 o16 mov 20(ebp),4        ; us = 4;
284 movb 24(ebp),5           ; c = 5;
285 movb 28(ebp),6           ; uc = 6;
286 mov 32(ebp),7            ; l = 7;
287 mov 36(ebp),8            ; ul = 8;
288 mov 40(ebp),9            ; x = 9;
289 o16 mov 44(ebp),10       ; y = 10;
290 movb -1(ebp),11          ; c1 = 11;
291 movb -9(ebp),12          ; c2 = 12;
292 mov -8(ebp),13           ; i1 = 13;
293
294 ; return ui * 2 + 1;
295
296 mov edx,8(ebp)           ; 8(ebp): ui
297 sal edx,1
298 add edx,32(ebp)          ; 32(ebp): l
299 mov eax,edx
300 leave
301 ret
302 ; }

```