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NewOperation.txt

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1 #include <iostream>
2 using namespace std;
3
4 class A
5 {
6 public:
7     int i;
8     short s;
9
10    A() {}
11    A(int i, short s) { this->i = i; this->s = s; }
12 };
13
14 void main()
15 {
16     A *ap1 = new A();
17     A *ap2 = new A(1, 3);
18     A a1;
19     A a2(2, 6);
20     //char dummy;
21
22     //cout << "ap1->i = " << ap1->i << ", ap1->s = " << ap1->s << "\n";
23     //cout << "ap2->i = " << ap2->i << ", ap2->s = " << ap2->s << "\n";
24     //cout << "a1.i = " << a1.i << ", a1.s = " << a1.s << "\n";
25     //cout << "a2.i = " << a2.i << ", a2.s = " << a2.s << "\n";
26     //cin >> dummy;
27 }
28

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29 ; Listing generated by Microsoft (R) Optimizing Compiler Version 19.12.25834.0
30
31 TITLE      c:\K-State\cis450\Programs\CoursePrograms\Chap3\NewOperation\New
Operation\NewOperation.cpp
32 .686P
33 .XMM
34 include listing.inc
35 .model flat
36
37 INCLUDELIB LIBCMT
38 INCLUDELIB OLDNAMES
39
40 PUBLIC  ??0A@@QAE@XZ                      ; A::A
41 PUBLIC  ??0A@@QAE@HF@Z                     ; A::A
42 PUBLIC  _main
43 EXTRN   ??2@YAPAXI@Z:PROC                  ; operator new
44 ; Function compile flags: /Odtp
45 ; File c:\k-state\cis450\programs\courseprograms\chap3\newoperation\newoperation
\newoperation.cpp
46 _TEXT SEGMENT
47 _a2$ = -40                                  ; size = 8
48 _a1$ = -32                                  ; size = 8
49 _ap2$ = -24                                 ; size = 4
50 _ap1$ = -20                                 ; size = 4
51 tv83 = -16                                  ; size = 4
52 $T1 = -12                                   ; size = 4
53 tv72 = -8                                   ; size = 4
54 $T2 = -4                                    ; size = 4
55 _main PROC
56
57 ; 15 : {
58
59 00000 55                                push    ebp
60 00001 8b ec                            mov     ebp, esp
61 00003 83 ec 28                          sub     esp, 40                      ; 00000028H
62
63 ; 16 :      A *ap1 = new A();
64
65 00006 6a 08                            push    8
66 00008 e8 00 00 00 00                    call    ??2@YAPAXI@Z                ; operator new
67 0000d 83 c4 04                          add     esp, 4
68 00010 89 45 fc                          mov     DWORD PTR $T2[ebp], eax
69 ////////////////////////////////////////////////// You can ignore the following two lines //////////////////////////////////////////////////
70 00013 83 7d fc 00                       cmp     DWORD PTR $T2[ebp], 0
71 00017 74 0d                            je      SHORT $LN3@main
72 //////////////////////////////////////////////////
73 00019 8b 4d fc                          mov     ecx, DWORD PTR $T2[ebp]
74 0001c e8 00 00 00 00                    call    ??0A@@QAE@XZ                ; A::A
75 00021 89 45 f8                          mov     DWORD PTR tv72[ebp], eax
76 ////////////////////////////////////////////////// You can ignore the following two lines //////////////////////////////////////////////////
77 00024 eb 07                            jmp     SHORT $LN4@main
78 $LN3@main:
79 00026 c7 45 f8 00 00                    mov     DWORD PTR tv72[ebp], 0
80 00 00
81
82 $LN4@main:
83 //////////////////////////////////////////////////
84 0002d 8b 45 f8                          mov     eax, DWORD PTR tv72[ebp]
85 00030 89 45 ec                          mov     DWORD PTR _ap1$[ebp], eax
86
87 ; 17 :      A *ap2 = new A(1, 3);
88
89 00033 6a 08                            push    8
90 00035 e8 00 00 00 00                    call    ??2@YAPAXI@Z                ; operator new
91 0003a 83 c4 04                          add     esp, 4
92 0003d 89 45 f4                          mov     DWORD PTR $T1[ebp], eax
93 00040 83 7d f4 00                       cmp     DWORD PTR $T1[ebp], 0
94 00044 74 11                            je      SHORT $LN5@main
95 00046 6a 03                            push    3
96 00048 6a 01                            push    1
97 0004a 8b 4d f4                          mov     ecx, DWORD PTR $T1[ebp]
98 0004d e8 00 00 00 00                    call    ??0A@@QAE@HF@Z                ; A::A
99 00052 89 45 f0                          mov     DWORD PTR tv83[ebp], eax

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100  00055 eb 07      jmp      SHORT $LN6@main
101  $LN5@main:
102  00057 c7 45 f0 00 00      mov     DWORD PTR tv83[ebp], 0
103      00 00
104  $LN6@main:
105  0005e 8b 4d f0      mov     ecx, DWORD PTR tv83[ebp]
106  00061 89 4d e8      mov     DWORD PTR _ap2$[ebp], ecx
107
108 ; 18 :      A a1;
109
110 00064 8d 4d e0      lea     ecx, DWORD PTR _a1$[ebp]
111 00067 e8 00 00 00 00      call   ??0A@@QAE@XZ      ; A::A
112
113 ; 19 :      A a2(2, 6);
114
115 0006c 6a 06      push    6
116 0006e 6a 02      push    2
117 00070 8d 4d d8      lea     ecx, DWORD PTR _a2$[ebp]
118 00073 e8 00 00 00 00      call   ??0A@@QAE@HF@Z      ; A::A
119
120 ; 20 :      //char dummy;
121 ; 21 :
122 ; 22 :      //cout << "ap1->i = " << ap1->i << ", ap1->s = " << ap1->s << "
123 ; 23 :      //cout << "ap2->i = " << ap2->i << ", ap2->s = " << ap2->s << "
124 ; 24 :      //cout << "a1.i = " << a1.i << ", a1.s = " << a1.s << "\n";
125 ; 25 :      //cout << "a2.i = " << a2.i << ", a2.s = " << a2.s << "\n";
126 ; 26 :      //cin >> dummy;
127 ; 27 : }
128
129 00078 33 c0      xor     eax, eax
130 0007a 8b e5      mov     esp, ebp
131 0007c 5d      pop     ebp
132 0007d c3      ret     0
133 _main      ENDP
134 _TEXT      ENDS
135 ; Function compile flags: /Odtp
136 ; File c:\k-state\cis450\programs\courseprograms\chap3\newoperation\newoperation
137 ;      COMDAT ??0A@@QAE@HF@Z
138 _TEXT      SEGMENT
139 _this$ = -4      ; size = 4
140 _i$ = 8      ; size = 4
141 _s$ = 12      ; size = 2
142 ??0A@@QAE@HF@Z PROC      ; A::A, COMDAT
143 ; _this$ = ecx
144
145 ; 11 :      A(int i, short s) { this->i = i; this->s = s; }
146
147 00000 55      push    ebp
148 00001 8b ec      mov     ebp, esp
149 00003 51      push    ecx
150 00004 89 4d fc      mov     DWORD PTR _this$[ebp], ecx
151 00007 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
152 0000a 8b 4d 08      mov     ecx, DWORD PTR _i$[ebp]
153 0000d 89 08      mov     DWORD PTR [eax], ecx
154 0000f 8b 55 fc      mov     edx, DWORD PTR _this$[ebp]
155 00012 66 8b 45 0c      mov     ax, WORD PTR _s$[ebp]
156 00016 66 89 42 04      mov     WORD PTR [edx+4], ax
157 0001a 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
158 0001d 8b e5      mov     esp, ebp
159 0001f 5d      pop     ebp
160 00020 c2 08 00      ret     8
161 ??0A@@QAE@HF@Z ENDP      ; A::A
162 _TEXT      ENDS
163 ; Function compile flags: /Odtp
164 ; File c:\k-state\cis450\programs\courseprograms\chap3\newoperation\newoperation
165 ;      COMDAT ??0A@@QAE@XZ
166 _TEXT      SEGMENT
167 _this$ = -4      ; size = 4
168 ??0A@@QAE@XZ PROC      ; A::A, COMDAT

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169 ; _this$ = ecx
170
171 ; 10 :      A() {}
172
173 00000 55      push    ebp
174 00001 8b ec      mov     ebp, esp
175 00003 51      push    ecx
176 00004 89 4d fc      mov     DWORD PTR _this$[ebp], ecx
177 00007 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
178 0000a 8b e5      mov     esp, ebp
179 0000c 5d      pop     ebp
180 0000d c3      ret     0
181 ??0A@@QAE@XZ ENDP      ; A::A
182 _TEXT      ENDS
183 END

```