

Apr 02, 18 15:03

Polymorphism.txt

Page 1/10

```

1 #include <iostream>
2 using namespace std;
3
4 class X
5 {
6     public:
7         int x;
8         X() { x = 5; }
9         void xx()
10        {
11            x = x + 10;
12        }
13 };
14 class A: public X
15 {
16     public:
17         int a;
18         A() {a = 1;}
19         virtual void f()
20        {
21            a = a + 10;
22        }
23
24         virtual void g()
25        {
26            a = a - 10;
27        }
28 };
29
30
31 class B: public A
32 {
33     public:
34         int b;
35         B() {b = 10;}
36         void f()
37        {
38            a = a + 100;
39            b = b + 200;
40        }
41
42         void h()
43        {
44            a = 0;
45            b = 0;
46        }
47 };
48
49 class C: public A
50 {
51     public:
52         int c;
53         C() {c = 100;}
54         void g()
55        {
56            a = a - 100;
57            c = c - 200;
58        }
59 };
60
61 int main()
62 {
63     A *ap1 = new A();
64     A *bp1 = new B();
65     A *bp2 = new B();
66     A *cp1 = new C();
67
68     ap1->f();
69     ap1->g();
70     ap1->xx();
71
72     bp1->f();
73     bp2->g();

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Apr 02, 18 15:03

Polymorphism.txt

Page 2/10

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74     ((B *)bp1)->h();
75     bp2->xx();
76
77     cp1->f();
78     cp1->g();
79     cp1->xx();
80 }
81

```

Apr 02, 18 15:03 Polymorphism.txt Page 3/10

```

82 // The following code is generated with /GR- option
83 // The /GR- option removes RTTI (Run-Time Type Information)
84 // cl /FAcs /Od /GR- file.cpp
85 ; Listing generated by Microsoft (R) Optimizing Compiler Version 19.12.25834.0
86
87 TITLE c:\K-State\cis450\Programs\CoursePrograms\Polymorphism\Polymorph
ism.cpp
88 .686P
89 .XMM
90 include listing.inc
91 .model flat
92
93 INCLUDELIB LIBCMT
94 INCLUDELIB OLDNAMES
95
96 PUBLIC ??0X@@QAE@XZ ; X::X
97 PUBLIC ?xx@X@@QAE@XZ ; X::xx
98 PUBLIC ??0A@@QAE@XZ ; A::A
99 PUBLIC ?f@A@@QAE@XZ ; A::f
100 PUBLIC ?g@A@@QAE@XZ ; A::g
101 PUBLIC ??0B@@QAE@XZ ; B::B
102 PUBLIC ?f@B@@QAE@XZ ; B::f
103 PUBLIC ?h@B@@QAE@XZ ; B::h
104 PUBLIC ??0C@@QAE@XZ ; C::C
105 PUBLIC ?g@C@@QAE@XZ ; C::g
106 PUBLIC _main
107 PUBLIC ??_7A@@6B@ ; A::'vftable'
108 PUBLIC ??_7B@@6B@ ; B::'vftable'
109 PUBLIC ??_7C@@6B@ ; C::'vftable'
110 EXTRN ??2@YAPAXI@Z:PROC ; operator new
111 ; COMDAT ??_7C@@6B@
112 CONST SEGMENT
113 ??_7C@@6B@ DD FLAT:?f@A@@QAE@XZ ; C::'vftable'
114 DD FLAT:?g@C@@QAE@XZ
115 CONST ENDS
116 ; COMDAT ??_7B@@6B@
117 CONST SEGMENT
118 ??_7B@@6B@ DD FLAT:?f@B@@QAE@XZ ; B::'vftable'
119 DD FLAT:?g@A@@QAE@XZ
120 CONST ENDS
121 ; COMDAT ??_7A@@6B@
122 CONST SEGMENT
123 ??_7A@@6B@ DD FLAT:?f@A@@QAE@XZ ; A::'vftable'
124 DD FLAT:?g@A@@QAE@XZ
125 CONST ENDS
126 ; Function compile flags: /Odtp
127 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
128 _TEXT SEGMENT
129 tv142 = -48 ; size = 4
130 $T1 = -44 ; size = 4
131 tv129 = -40 ; size = 4
132 $T2 = -36 ; size = 4
133 tv84 = -32 ; size = 4
134 $T3 = -28 ; size = 4
135 tv72 = -24 ; size = 4
136 $T4 = -20 ; size = 4
137 _bp2$ = -16 ; size = 4
138 _bp1$ = -12 ; size = 4
139 _cp1$ = -8 ; size = 4
140 _ap1$ = -4 ; size = 4
141 _main PROC
142
143 ; 62 : {
144
145 00000 55 push ebp
146 00001 8b ec mov ebp, esp
147 00003 83 ec 30 sub esp, 48 ; 00000030H
148
149 ; 63 : A *ap1 = new A();
150
151 00006 6a 0c push 12 ; 0000000cH
152 00008 e8 00 00 00 00 call ??2@YAPAXI@Z ; operator new
153 0000d 83 c4 04 add esp, 4

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Apr 02, 18 15:03 Polymorphism.txt Page 4/10

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154 00010 89 45 ec mov DWORD PTR $T4[ebp], eax
155 00013 83 7d ec 00 cmp DWORD PTR $T4[ebp], 0
156 00017 74 0d je SHORT $LN3@main
157 00019 8b 4d ec mov ecx, DWORD PTR $T4[ebp]
158 0001c e8 00 00 00 00 call ??0A@@QAE@XZ ; A::A
159 00021 89 45 e8 mov DWORD PTR tv72[ebp], eax
160 00024 eb 07 jmp SHORT $LN4@main
161 $LN3@main:
162 00026 c7 45 e8 00 00 mov DWORD PTR tv72[ebp], 0
163 00 00
164 $LN4@main:
165 0002d 8b 45 e8 mov eax, DWORD PTR tv72[ebp]
166 00030 89 45 fc mov DWORD PTR _ap1$[ebp], eax
167
168 ; 64 : A *bp1 = new B();
169
170 00033 6a 10 push 16 ; 00000010H
171 00035 e8 00 00 00 00 call ??2@YAPAXI@Z ; operator new
172 0003a 83 c4 04 add esp, 4
173 0003d 89 45 e4 mov DWORD PTR $T3[ebp], eax
174 00040 83 7d e4 00 cmp DWORD PTR $T3[ebp], 0
175 00044 74 0d je SHORT $LN5@main
176 00046 8b 4d e4 mov ecx, DWORD PTR $T3[ebp]
177 00049 e8 00 00 00 00 call ??0B@@QAE@XZ ; B::B
178 0004e 89 45 e0 mov DWORD PTR tv84[ebp], eax
179 00051 eb 07 jmp SHORT $LN6@main
180 $LN5@main:
181 00053 c7 45 e0 00 00 mov DWORD PTR tv84[ebp], 0
182 00 00
183 $LN6@main:
184 0005a 8b 4d e0 mov ecx, DWORD PTR tv84[ebp]
185 0005d 89 4d f4 mov DWORD PTR _bp1$[ebp], ecx
186
187 ; 65 : A *bp2 = new B();
188
189 00060 6a 10 push 16 ; 00000010H
190 00062 e8 00 00 00 00 call ??2@YAPAXI@Z ; operator new
191 00067 83 c4 04 add esp, 4
192 0006a 89 45 dc mov DWORD PTR $T2[ebp], eax
193 0006d 83 7d dc 00 cmp DWORD PTR $T2[ebp], 0
194 00071 74 0d je SHORT $LN7@main
195 00073 8b 4d dc mov ecx, DWORD PTR $T2[ebp]
196 00076 e8 00 00 00 00 call ??0B@@QAE@XZ ; B::B
197 0007b 89 45 d8 mov DWORD PTR tv129[ebp], eax
198 0007e eb 07 jmp SHORT $LN8@main
199 $LN7@main:
200 00080 c7 45 d8 00 00 mov DWORD PTR tv129[ebp], 0
201 00 00
202 $LN8@main:
203 00087 8b 55 d8 mov edx, DWORD PTR tv129[ebp]
204 0008a 89 55 f0 mov DWORD PTR _bp2$[ebp], edx
205
206 ; 66 : A *cp1 = new C();
207
208 0008d 6a 10 push 16 ; 00000010H
209 0008f e8 00 00 00 00 call ??2@YAPAXI@Z ; operator new
210 00094 83 c4 04 add esp, 4
211 00097 89 45 d4 mov DWORD PTR $T1[ebp], eax
212 0009a 83 7d d4 00 cmp DWORD PTR $T1[ebp], 0
213 0009e 74 0d je SHORT $LN9@main
214 000a0 8b 4d d4 mov ecx, DWORD PTR $T1[ebp]
215 000a3 e8 00 00 00 00 call ??0C@@QAE@XZ ; C::C
216 000a8 89 45 d0 mov DWORD PTR tv142[ebp], eax
217 000ab eb 07 jmp SHORT $LN10@main
218 $LN9@main:
219 000ad c7 45 d0 00 00 mov DWORD PTR tv142[ebp], 0
220 00 00
221 $LN10@main:
222 000b4 8b 45 d0 mov eax, DWORD PTR tv142[ebp]
223 000b7 89 45 f8 mov DWORD PTR _cp1$[ebp], eax
224
225 ; 67 :
226 ; 68 : ap1->f();

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Apr 02, 18 15:03	Polymorphism.txt	Page 5/10
227		
228	000ba 8b 4d fc	mov ecx, DWORD PTR _ap1\$[ebp]
229	000bd 8b 11	mov edx, DWORD PTR [ecx]
230	000bf 8b 4d fc	mov ecx, DWORD PTR _ap1\$[ebp]
231	000c2 8b 02	mov eax, DWORD PTR [edx]
232	000c4 ff d0	call eax
233		
234	; 69 : ap1->g();	
235		
236	000c6 8b 4d fc	mov ecx, DWORD PTR _ap1\$[ebp]
237	000c9 8b 11	mov edx, DWORD PTR [ecx]
238	000cb 8b 4d fc	mov ecx, DWORD PTR _ap1\$[ebp]
239	000ce 8b 42 04	mov eax, DWORD PTR [edx+4]
240	000d1 ff d0	call eax
241		
242	; 70 : ap1->xx();	
243		
244	000d3 8b 4d fc	mov ecx, DWORD PTR _ap1\$[ebp]
245	000d6 83 c1 04	add ecx, 4
246	000d9 e8 00 00 00 00	call ?xx@X@@@QAEXXZ ; X::xx
247		
248	; 71 :	
249	; 72 : bp1->f();	
250		
251	000de 8b 4d f4	mov ecx, DWORD PTR _bp1\$[ebp]
252	000e1 8b 11	mov edx, DWORD PTR [ecx]
253	000e3 8b 4d f4	mov ecx, DWORD PTR _bp1\$[ebp]
254	000e6 8b 02	mov eax, DWORD PTR [edx]
255	000e8 ff d0	call eax
256		
257	; 73 : bp2->g();	
258		
259	000ea 8b 4d f0	mov ecx, DWORD PTR _bp2\$[ebp]
260	000ed 8b 11	mov edx, DWORD PTR [ecx]
261	000ef 8b 4d f0	mov ecx, DWORD PTR _bp2\$[ebp]
262	000f2 8b 42 04	mov eax, DWORD PTR [edx+4]
263	000f5 ff d0	call eax
264		
265	; 74 : ((B *)bp1)->h();	
266		
267	000f7 8b 4d f4	mov ecx, DWORD PTR _bp1\$[ebp]
268	000fa e8 00 00 00 00	call ?h@B@@@QAEXXZ ; B::h
269		
270	; 75 : bp2->xx();	
271		
272	000ff 8b 4d f0	mov ecx, DWORD PTR _bp2\$[ebp]
273	00102 83 c1 04	add ecx, 4
274	00105 e8 00 00 00 00	call ?xx@X@@@QAEXXZ ; X::xx
275		
276	; 76 :	
277	; 77 : cp1->f();	
278		
279	0010a 8b 4d f8	mov ecx, DWORD PTR _cp1\$[ebp]
280	0010d 8b 11	mov edx, DWORD PTR [ecx]
281	0010f 8b 4d f8	mov ecx, DWORD PTR _cp1\$[ebp]
282	00112 8b 02	mov eax, DWORD PTR [edx]
283	00114 ff d0	call eax
284		
285	; 78 : cp1->g();	
286		
287	00116 8b 4d f8	mov ecx, DWORD PTR _cp1\$[ebp]
288	00119 8b 11	mov edx, DWORD PTR [ecx]
289	0011b 8b 4d f8	mov ecx, DWORD PTR _cp1\$[ebp]
290	0011e 8b 42 04	mov eax, DWORD PTR [edx+4]
291	00121 ff d0	call eax
292		
293	; 79 : cp1->xx();	
294		
295	00123 8b 4d f8	mov ecx, DWORD PTR _cp1\$[ebp]
296	00126 83 c1 04	add ecx, 4
297	00129 e8 00 00 00 00	call ?xx@X@@@QAEXXZ ; X::xx
298		
299	; 80 : }	

Apr 02, 18 15:03	Polymorphism.txt	Page 6/10
300		
301	0012e 33 c0	xor eax, eax
302	00130 8b e5	mov esp, ebp
303	00132 5d	pop ebp
304	00133 c3	ret 0
305	_main ENDP	
306	_TEXT ENDS	
307	; Function compile flags: /Odtp	
308	; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp	
309	; COMDAT ?g@C@@@QAEXXZ	
310	_TEXT SEGMENT	
311	_this\$ = -4	; size = 4
312	?g@C@@@QAEXXZ PROC	; C::g, COMDAT
313	; _this\$ = ecx	
314		
315	; 55 : {	
316		
317	00000 55	push ebp
318	00001 8b ec	mov ebp, esp
319	00003 51	push ecx
320	00004 89 4d fc	mov DWORD PTR _this\$[ebp], ecx
321		
322	; 56 : a = a - 100;	
323		
324	00007 8b 45 fc	mov eax, DWORD PTR _this\$[ebp]
325	0000a 8b 48 08	mov ecx, DWORD PTR [eax+8]
326	0000d 83 e9 64	sub ecx, 100 ; 00000064H
327	00010 8b 55 fc	mov edx, DWORD PTR _this\$[ebp]
328	00013 89 4a 08	mov DWORD PTR [edx+8], ecx
329		
330	; 57 : c = c - 200;	
331		
332	00016 8b 45 fc	mov eax, DWORD PTR _this\$[ebp]
333	00019 8b 48 0c	mov ecx, DWORD PTR [eax+12]
334	0001c 81 e9 c8 00 00	sub ecx, 200 ; 000000c8H
335	00	
336	00022 8b 55 fc	mov edx, DWORD PTR _this\$[ebp]
337	00025 89 4a 0c	mov DWORD PTR [edx+12], ecx
338		
339	; 58 : }	
340		
341	00028 8b e5	mov esp, ebp
342	0002a 5d	pop ebp
343	0002b c3	ret 0
344	?g@C@@@QAEXXZ ENDP	
345	_TEXT ENDS	; C::g
346	; Function compile flags: /Odtp	
347	; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp	
348	; COMDAT ??0C@@@QAE@XZ	
349	_TEXT SEGMENT	
350	_this\$ = -4	; size = 4
351	??0C@@@QAE@XZ PROC	; C::C, COMDAT
352	; _this\$ = ecx	
353		
354	; 53 : C() {c = 100;}	
355		
356	00000 55	push ebp
357	00001 8b ec	mov ebp, esp
358	00003 51	push ecx
359	00004 89 4d fc	mov DWORD PTR _this\$[ebp], ecx
360	00007 8b 4d fc	mov ecx, DWORD PTR _this\$[ebp]
361	0000a e8 00 00 00 00	call ??0A@@@QAE@XZ ; A::A
362	0000f 8b 45 fc	mov eax, DWORD PTR _this\$[ebp]
363	00012 c7 00 00 00 00	
364	00	mov DWORD PTR [eax], OFFSET ??_7C@@@6B@
365	00018 8b 4d fc	mov ecx, DWORD PTR _this\$[ebp]
366	0001b c7 41 0c 64 00	
367	00 00	mov DWORD PTR [ecx+12], 100 ; 00000064H
368	00022 8b 45 fc	mov eax, DWORD PTR _this\$[ebp]
369	00025 8b e5	mov esp, ebp
370	00027 5d	pop ebp
371	00028 c3	ret 0
372	??0C@@@QAE@XZ ENDP	; C::C

Apr 02, 18 15:03

Polymorphism.txt

Page 7/10

```

373 _TEXT ENDS
374 ; Function compile flags: /Odtp
375 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
376 ; COMDAT ?hB@@QAEXXZ
377 _TEXT SEGMENT
378 _this$ = -4 ; size = 4
379 ?hB@@QAEXXZ PROC ; B::h, COMDAT
380 ; _this$ = ecx
381
382 ; 43 : {
383
384 00000 55 push ebp
385 00001 8b ec mov ebp, esp
386 00003 51 push ecx
387 00004 89 4d fc mov DWORD PTR _this$[ebp], ecx
388
389 ; 44 : a = 0;
390
391 00007 8b 45 fc mov eax, DWORD PTR _this$[ebp]
392 0000a c7 40 08 00 00 mov DWORD PTR [eax+8], 0
393 00 00
394
395 ; 45 : b = 0;
396
397 00011 8b 4d fc mov ecx, DWORD PTR _this$[ebp]
398 00014 c7 41 0c 00 00 mov DWORD PTR [ecx+12], 0
399 00 00
400
401 ; 46 : }
402
403 0001b 8b e5 mov esp, ebp
404 0001d 5d pop ebp
405 0001e c3 ret 0
406 ?hB@@QAEXXZ ENDP ; B::h
407 _TEXT ENDS
408 ; Function compile flags: /Odtp
409 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
410 ; COMDAT ?fB@@UAEXXZ
411 _TEXT SEGMENT
412 _this$ = -4 ; size = 4
413 ?fB@@UAEXXZ PROC ; B::f, COMDAT
414 ; _this$ = ecx
415
416 ; 37 : {
417
418 00000 55 push ebp
419 00001 8b ec mov ebp, esp
420 00003 51 push ecx
421 00004 89 4d fc mov DWORD PTR _this$[ebp], ecx
422
423 ; 38 : a = a + 100;
424
425 00007 8b 45 fc mov eax, DWORD PTR _this$[ebp]
426 0000a 8b 48 08 mov ecx, DWORD PTR [eax+8]
427 0000d 83 c1 64 add ecx, 100 ; 00000064H
428 00010 8b 55 fc mov edx, DWORD PTR _this$[ebp]
429 00013 89 4a 08 mov DWORD PTR [edx+8], ecx
430
431 ; 39 : b = b + 200;
432
433 00016 8b 45 fc mov eax, DWORD PTR _this$[ebp]
434 00019 8b 48 0c mov ecx, DWORD PTR [eax+12]
435 0001c 81 c1 c8 00 00 add ecx, 200 ; 000000c8H
436 00
437 00022 8b 55 fc mov edx, DWORD PTR _this$[ebp]
438 00025 89 4a 0c mov DWORD PTR [edx+12], ecx
439
440 ; 40 : }
441
442 00028 8b e5 mov esp, ebp
443 0002a 5d pop ebp
444 0002b c3 ret 0
445 ?fB@@UAEXXZ ENDP ; B::f

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Monday April 02, 2018

Polymorphism.txt

Apr 02, 18 15:03

Polymorphism.txt

Page 8/10

```

446 _TEXT ENDS
447 ; Function compile flags: /Odtp
448 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
449 ; COMDAT ??0B@@QAE@XZ
450 _TEXT SEGMENT
451 _this$ = -4 ; size = 4
452 ??0B@@QAE@XZ PROC ; B::B, COMDAT
453 ; _this$ = ecx
454
455 ; 35 : B() {b = 10;}
456
457 00000 55 push ebp
458 00001 8b ec mov ebp, esp
459 00003 51 push ecx
460 00004 89 4d fc mov DWORD PTR _this$[ebp], ecx
461 00007 8b 4d fc mov ecx, DWORD PTR _this$[ebp]
462 0000a e8 00 00 00 00 call ??0A@@QAE@XZ ; A::A
463 0000f 8b 45 fc mov eax, DWORD PTR _this$[ebp]
464 00012 c7 00 00 00 00 mov DWORD PTR [eax], OFFSET ??_7B@@6B@
465 00
466 00018 8b 4d fc mov ecx, DWORD PTR _this$[ebp]
467 0001b c7 41 0c 0a 00 mov DWORD PTR [ecx+12], 10 ; 0000000aH
468 00 00
469 00022 8b 45 fc mov eax, DWORD PTR _this$[ebp]
470 00025 8b e5 mov esp, ebp
471 00027 5d pop ebp
472 00028 c3 ret 0
473 ??0B@@QAE@XZ ENDP ; B::B
474 _TEXT ENDS
475 ; Function compile flags: /Odtp
476 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
477 ; COMDAT ?gA@@UAEXXZ
478 _TEXT SEGMENT
479 _this$ = -4 ; size = 4
480 ?gA@@UAEXXZ PROC ; A::g, COMDAT
481 ; _this$ = ecx
482
483 ; 25 : {
484
485 00000 55 push ebp
486 00001 8b ec mov ebp, esp
487 00003 51 push ecx
488 00004 89 4d fc mov DWORD PTR _this$[ebp], ecx
489
490 ; 26 : a = a - 10;
491
492 00007 8b 45 fc mov eax, DWORD PTR _this$[ebp]
493 0000a 8b 48 08 mov ecx, DWORD PTR [eax+8]
494 0000d 83 e9 0a sub ecx, 10 ; 0000000aH
495 00010 8b 55 fc mov edx, DWORD PTR _this$[ebp]
496 00013 89 4a 08 mov DWORD PTR [edx+8], ecx
497
498 ; 27 : }
499
500 00016 8b e5 mov esp, ebp
501 00018 5d pop ebp
502 00019 c3 ret 0
503 ?gA@@UAEXXZ ENDP ; A::g
504 _TEXT ENDS
505 ; Function compile flags: /Odtp
506 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
507 ; COMDAT ?fA@@UAEXXZ
508 _TEXT SEGMENT
509 _this$ = -4 ; size = 4
510 ?fA@@UAEXXZ PROC ; A::f, COMDAT
511 ; _this$ = ecx
512
513 ; 20 : {
514
515 00000 55 push ebp
516 00001 8b ec mov ebp, esp
517 00003 51 push ecx
518 00004 89 4d fc mov DWORD PTR _this$[ebp], ecx

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4/5

Apr 02, 18 15:03

Polymorphism.txt

Page 9/10

```

519 ; 21 :      a = a + 10;
520
521
522 00007 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
523 0000a 8b 48 08      mov     ecx, DWORD PTR [eax+8]
524 0000d 83 c1 0a      add     ecx, 10 ; 0000000aH
525 00010 8b 55 fc      mov     edx, DWORD PTR _this$[ebp]
526 00013 89 4a 08      mov     DWORD PTR [edx+8], ecx
527
528 ; 22 :      }
529
530 00016 8b e5      mov     esp, ebp
531 00018 5d      pop     ebp
532 00019 c3      ret     0
533 ?f@A@@UAEXXZ ENDP ; A::f
534 _TEXT ENDS
535 ; Function compile flags: /Odtp
536 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
537 ; COMDAT ??0A@@QAE@XZ
538 _TEXT SEGMENT
539 _this$ = -4 ; size = 4
540 ??0A@@QAE@XZ PROC ; A::A, COMDAT
541 ; _this$ = ecx
542
543 ; 18 :      A() {a = 1;}
544
545 00000 55      push    ebp
546 00001 8b ec      mov     ebp, esp
547 00003 51      push    ecx
548 00004 89 4d fc      mov     DWORD PTR _this$[ebp], ecx
549 00007 8b 4d fc      mov     ecx, DWORD PTR _this$[ebp]
550 0000a 83 c1 04      add     ecx, 4
551 0000d e8 00 00 00 00 call    ??0X@@QAE@XZ ; X::X
552 00012 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
553 00015 c7 00 00 00 00 mov     DWORD PTR [eax], OFFSET ??_7A@@6B@
554 00
555 0001b 8b 4d fc      mov     ecx, DWORD PTR _this$[ebp]
556 0001e c7 41 08 01 00 mov     DWORD PTR [ecx+8], 1
557 00
558 00025 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
559 00028 8b e5      mov     esp, ebp
560 0002a 5d      pop     ebp
561 0002b c3      ret     0
562 ??0A@@QAE@XZ ENDP ; A::A
563 _TEXT ENDS
564 ; Function compile flags: /Odtp
565 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
566 ; COMDAT ?xx@X@@QAEXXZ
567 _TEXT SEGMENT
568 _this$ = -4 ; size = 4
569 ?xx@X@@QAEXXZ PROC ; X::xx, COMDAT
570 ; _this$ = ecx
571
572 ; 10 :      {
573
574 00000 55      push    ebp
575 00001 8b ec      mov     ebp, esp
576 00003 51      push    ecx
577 00004 89 4d fc      mov     DWORD PTR _this$[ebp], ecx
578
579 ; 11 :      x = x + 10;
580
581 00007 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
582 0000a 8b 08      mov     ecx, DWORD PTR [eax]
583 0000c 83 c1 0a      add     ecx, 10 ; 0000000aH
584 0000f 8b 55 fc      mov     edx, DWORD PTR _this$[ebp]
585 00012 89 0a      mov     DWORD PTR [edx], ecx
586
587 ; 12 :      }
588
589 00014 8b e5      mov     esp, ebp
590 00016 5d      pop     ebp
591 00017 c3      ret     0

```

Apr 02, 18 15:03

Polymorphism.txt

Page 10/10

```

592 ?xx@X@@QAEXXZ ENDP ; X::xx
593 _TEXT ENDS
594 ; Function compile flags: /Odtp
595 ; File c:\k-state\cis450\programs\courseprograms\polymorphism\polymorphism.cpp
596 ; COMDAT ??0X@@QAE@XZ
597 _TEXT SEGMENT
598 _this$ = -4 ; size = 4
599 ??0X@@QAE@XZ PROC ; X::X, COMDAT
600 ; _this$ = ecx
601
602 ; 8 :      X() { x = 5; }
603
604 00000 55      push    ebp
605 00001 8b ec      mov     ebp, esp
606 00003 51      push    ecx
607 00004 89 4d fc      mov     DWORD PTR _this$[ebp], ecx
608 00007 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
609 0000a c7 00 05 00 00 mov     DWORD PTR [eax], 5
610 00
611 00010 8b 45 fc      mov     eax, DWORD PTR _this$[ebp]
612 00013 8b e5      mov     esp, ebp
613 00015 5d      pop     ebp
614 00016 c3      ret     0
615 ??0X@@QAE@XZ ENDP ; X::X
616 _TEXT ENDS
617 END
618

```