

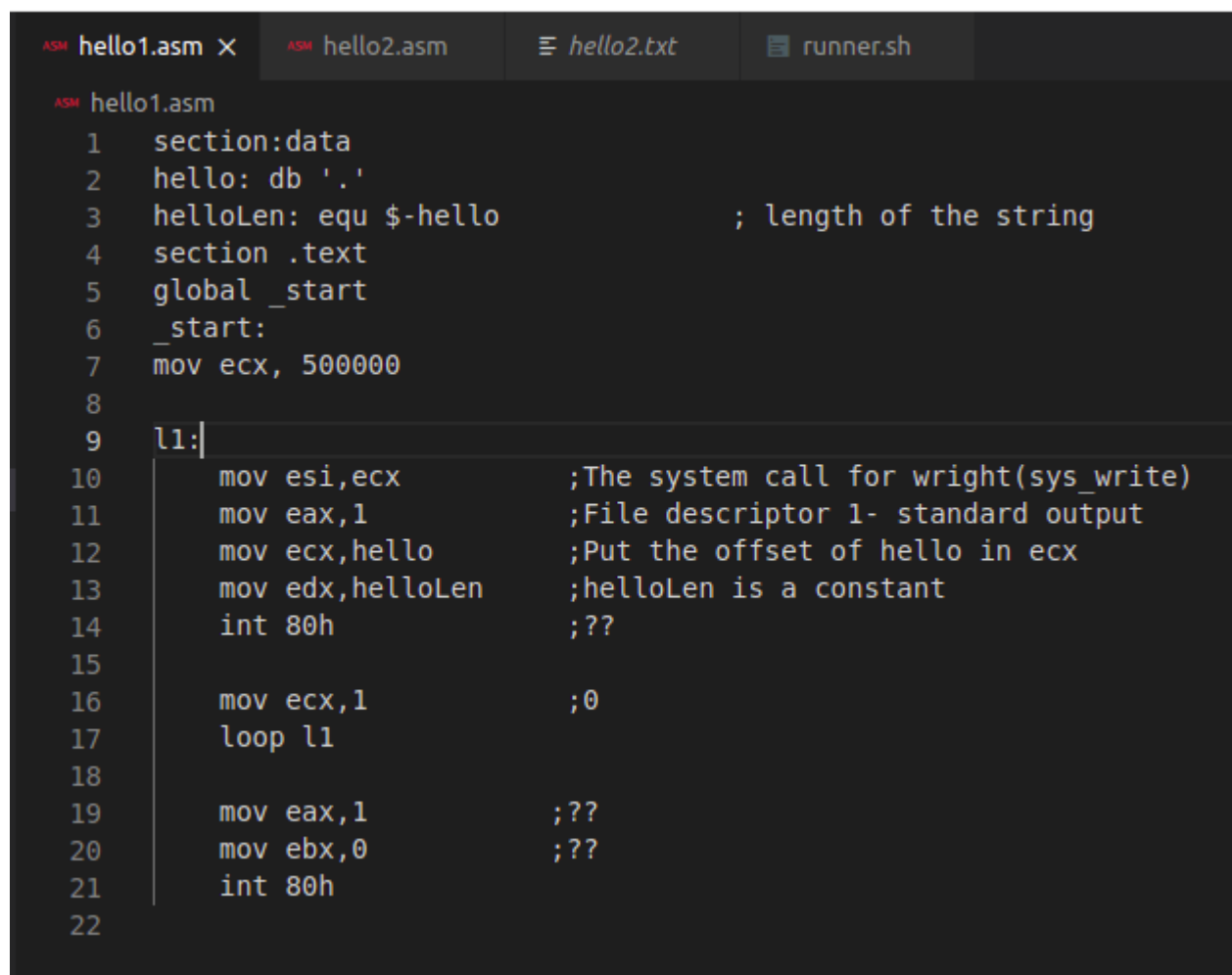
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**Roll no. :: 19P-0104**  
**Operating System**  
**BS(CS) :: Section 4A**

Number of experiments run: N = 50

Average 'user time' for hello (int-based calls): I = 1.12

Average 'user time' for hello2 (syscall-based calls): S = 1.1

Percentage speedup:  $(I-S)*100/I = 1.78571429$



```
ASM hello1.asm x ASM hello2.asm ≡ hello2.txt runner.sh
ASM hello1.asm
1  section:data
2  hello: db '.'
3  helloLen: equ $-hello           ; length of the string
4  section .text
5  global _start
6  _start:
7  mov ecx, 500000
8
9  l1:|
10     mov esi,ecx                ;The system call for wright(sys_write)
11     mov eax,1                  ;File descriptor 1- standard output
12     mov ecx,hello              ;Put the offset of hello in ecx
13     mov edx,helloLen           ;helloLen is a constant
14     int 80h                    ;??
15
16     mov ecx,1                  ;0
17     loop l1
18
19     mov eax,1                  ;??
20     mov ebx,0                  ;??
21     int 80h
22
```

PROBLEMS OUTPUT TERMINAL DEBUG CONSOLE

```
ibrar@Ibrar:~/nasm-lab$ nasm -f elf64 hello1.asm
ibrar@Ibrar:~/nasm-lab$ ld -s -o hello1 hello1.o
ibrar@Ibrar:~/nasm-lab$ ./hello1
ibrar@Ibrar:~/nasm-lab$ time ./hello1 > /dev/null

real    0m0.001s
user    0m0.001s
sys      0m0.000s
ibrar@Ibrar:~/nasm-lab$
```

ASM hello1.asm

ASM hello2.asm X

≡ hello2.txt

runner.sh

ASM hello2.asm

```
1      section:data
2  hello: db '.'
3  helloLen: equ $-hello           ; length of the string
4  section :text
5  global _start
6  _start:
7  mov ecx, 500000
8
9  l1:
10     mov ebx,ecx
11     mov rdi,1                    ;where to write (1 is console)
12     mov rsi,hello
13     mov rdx,helloLen
14     mov rax,1                    ;syscall number
15     syscall
16
17     mov ecx,ebx                  ;0
18     loop l1
19
20     mov rdi,0
21     mov rax,60
22     syscall
```

ASM hello1.asm

ASM hello2.asm

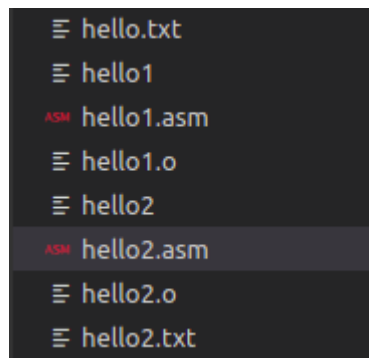
runner.sh ×

runner.sh

```
1  #!/bin/bash
2  x=1
3  while [ $x -le 50 ]
4  do
5      (time ./hello2 > /dev/null) &>> hello2.txt
6      (time ./hello > /dev/null) &>> hello.txt
7      x=$(( $x + 1 ))
8  done
```

```
PROBLEMS  OUTPUT  TERMINAL  DEBUG CONSOLE  
ibrar@Ibrar:~/nasm-lab$ nasm -f elf64 -o hello1.o hello1.asm  
ibrar@Ibrar:~/nasm-lab$ nasm -f elf64 -o hello2.o hello2.asm  
ibrar@Ibrar:~/nasm-lab$ ld -s -o hello1 hello1.o  
ibrar@Ibrar:~/nasm-lab$ ld -s -o hello2 hello2.o  
ibrar@Ibrar:~/nasm-lab$ chmod +x runner.sh  
ibrar@Ibrar:~/nasm-lab$ ./runner.sh  
█
```

hello1.txt & hello2.txt files are going to created.



## hello1.txt File

asm hello1.asm

asm hello2.asm

runner.sh

hello.txt x

□ ...

≡ hello.txt

```
1 ./runner.sh: line 6: 16985 Segmentation fault (core dumped) ./hello > /dev/null
2
3 real    0m0.161s
4 user    0m0.001s
5 sys 0m0.000s
6 ./runner.sh: line 6: 16991 Segmentation fault (core dumped) ./hello > /dev/null
7
8 real    0m0.177s
9 user    0m0.000s
10 sys 0m0.001s
11 ./runner.sh: line 6: 16997 Segmentation fault (core dumped) ./hello > /dev/null
12
13 real    0m0.163s
14 user    0m0.002s
15 sys 0m0.000s
16 ./runner.sh: line 6: 17003 Segmentation fault (core dumped) ./hello > /dev/null
17
18 real    0m0.160s
19 user    0m0.001s
20 sys 0m0.001s
21 ./runner.sh: line 6: 17009 Segmentation fault (core dumped) ./hello > /dev/null
22
23 real    0m0.170s
24 user    0m0.002s
25 sys 0m0.000s
26 ./runner.sh: line 6: 17015 Segmentation fault (core dumped) ./hello > /dev/null
27
28 real    0m0.175s
29 user    0m0.001s
30 sys 0m0.000s
31 ./runner.sh: line 6: 17021 Segmentation fault (core dumped) ./hello > /dev/null
32
```

Ln 251, Col 1 Spaces: 4 UTF-8 LF Plain Text

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt x  [] ...
hello.txt
32
33  real    0m0.172s
34  user    0m0.002s
35  sys 0m0.000s
36  ./runner.sh: line 6: 17027 Segmentation fault      (core dumped) ./hello > /dev/null
37
38  real    0m0.162s
39  user    0m0.002s
40  sys 0m0.000s
41  ./runner.sh: line 6: 17033 Segmentation fault      (core dumped) ./hello > /dev/null
42
43  real    0m0.161s
44  user    0m0.001s
45  sys 0m0.000s
46  ./runner.sh: line 6: 17039 Segmentation fault      (core dumped) ./hello > /dev/null
47
48  real    0m0.167s
49  user    0m0.001s
50  sys 0m0.000s
51  ./runner.sh: line 6: 17045 Segmentation fault      (core dumped) ./hello > /dev/null
52
53  real    0m0.172s
54  user    0m0.001s
55  sys 0m0.001s
56  ./runner.sh: line 6: 17051 Segmentation fault      (core dumped) ./hello > /dev/null
57
58  real    0m0.167s
59  user    0m0.001s
60  sys 0m0.001s
61  ./runner.sh: line 6: 17057 Segmentation fault      (core dumped) ./hello > /dev/null
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt x  [] ...
hello.txt
62
63  real    0m0.166s
64  user    0m0.001s
65  sys 0m0.000s
66  ./runner.sh: line 6: 17063 Segmentation fault      (core dumped) ./hello > /dev/null
67
68  real    0m0.157s
69  user    0m0.001s
70  sys 0m0.000s
71  ./runner.sh: line 6: 17069 Segmentation fault      (core dumped) ./hello > /dev/null
72
73  real    0m0.164s
74  user    0m0.001s
75  sys 0m0.000s
76  ./runner.sh: line 6: 17075 Segmentation fault      (core dumped) ./hello > /dev/null
77
78  real    0m0.234s
79  user    0m0.001s
80  sys 0m0.001s
81  ./runner.sh: line 6: 17081 Segmentation fault      (core dumped) ./hello > /dev/null
82
83  real    0m0.227s
84  user    0m0.002s
85  sys 0m0.000s
86  ./runner.sh: line 6: 17087 Segmentation fault      (core dumped) ./hello > /dev/null
87
88  real    0m0.175s
89  user    0m0.001s
90  sys 0m0.000s
91  ./runner.sh: line 6: 17093 Segmentation fault      (core dumped) ./hello > /dev/null
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt  X  ...
hello.txt
91 ./runner.sh: line 6: 17095 Segmentation fault      (core dumped) ./hello > /dev/null
92
93 real    0m0.160s
94 user    0m0.001s
95 sys 0m0.000s
96 ./runner.sh: line 6: 17099 Segmentation fault      (core dumped) ./hello > /dev/null
97
98 real    0m0.166s
99 user    0m0.001s
100 sys 0m0.001s
101 ./runner.sh: line 6: 17105 Segmentation fault      (core dumped) ./hello > /dev/null
102
103 real    0m0.162s
104 user    0m0.001s
105 sys 0m0.001s
106 ./runner.sh: line 6: 17111 Segmentation fault      (core dumped) ./hello > /dev/null
107
108 real    0m0.155s
109 user    0m0.002s
110 sys 0m0.000s
111 ./runner.sh: line 6: 17117 Segmentation fault      (core dumped) ./hello > /dev/null
112
113 real    0m0.158s
114 user    0m0.002s
115 sys 0m0.000s
116 ./runner.sh: line 6: 17123 Segmentation fault      (core dumped) ./hello > /dev/null
117
118 real    0m0.157s
119 user    0m0.000s
120 sys 0m0.002s
121 ./runner.sh: line 6: 17129 Segmentation fault      (core dumped) ./hello > /dev/null
122
```

```
asm hello1.asm  asm hello2.asm  runner.sh  hello.txt x  [] ...
≡ hello.txt
123  real    0m0.155s
124  user    0m0.002s
125  sys 0m0.000s
126  ./runner.sh: line 6: 17135 Segmentation fault      (core dumped) ./hello > /dev/null
127
128  real    0m0.160s
129  user    0m0.002s
130  sys 0m0.000s
131  ./runner.sh: line 6: 17141 Segmentation fault      (core dumped) ./hello > /dev/null
132
133  real    0m0.157s
134  user    0m0.001s
135  sys 0m0.000s
136  ./runner.sh: line 6: 17147 Segmentation fault      (core dumped) ./hello > /dev/null
137
138  real    0m0.164s
139  user    0m0.001s
140  sys 0m0.000s
141  ./runner.sh: line 6: 17153 Segmentation fault      (core dumped) ./hello > /dev/null
142
143  real    0m0.158s
144  user    0m0.000s
145  sys 0m0.001s
146  ./runner.sh: line 6: 17159 Segmentation fault      (core dumped) ./hello > /dev/null
147
148  real    0m0.208s
149  user    0m0.001s
150  sys 0m0.001s
151  ./runner.sh: line 6: 17167 Segmentation fault      (core dumped) ./hello > /dev/null
```

```
asm hello1.asm  asm hello2.asm  runner.sh  hello.txt x  [] ...
≡ hello.txt
153  real    0m0.185s
154  user    0m0.000s
155  sys 0m0.001s
156  ./runner.sh: line 6: 17173 Segmentation fault      (core dumped) ./hello > /dev/null
157
158  real    0m0.163s
159  user    0m0.001s
160  sys 0m0.000s
161  ./runner.sh: line 6: 17179 Segmentation fault      (core dumped) ./hello > /dev/null
162
163  real    0m0.173s
164  user    0m0.001s
165  sys 0m0.001s
166  ./runner.sh: line 6: 17185 Segmentation fault      (core dumped) ./hello > /dev/null
167
168  real    0m0.161s
169  user    0m0.001s
170  sys 0m0.001s
171  ./runner.sh: line 6: 17191 Segmentation fault      (core dumped) ./hello > /dev/null
172
173  real    0m0.187s
174  user    0m0.001s
175  sys 0m0.000s
176  ./runner.sh: line 6: 17197 Segmentation fault      (core dumped) ./hello > /dev/null
177
178  real    0m0.225s
179  user    0m0.000s
180  sys 0m0.001s
181  ./runner.sh: line 6: 17203 Segmentation fault      (core dumped) ./hello > /dev/null
182
```



```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt x  [] ...
≡ hello.txt
183  real    0m0.190s
184  user     0m0.002s
185  sys 0m0.000s
186  ./runner.sh: line 6: 17209 Segmentation fault      (core dumped) ./hello > /dev/null
187
188  real    0m0.192s
189  user     0m0.001s
190  sys 0m0.001s
191  ./runner.sh: line 6: 17215 Segmentation fault      (core dumped) ./hello > /dev/null
192
193  real    0m0.195s
194  user     0m0.001s
195  sys 0m0.000s
196  ./runner.sh: line 6: 17221 Segmentation fault      (core dumped) ./hello > /dev/null
197
198  real    0m0.160s
199  user     0m0.000s
200  sys 0m0.002s
201  ./runner.sh: line 6: 17227 Segmentation fault      (core dumped) ./hello > /dev/null
202
203  real    0m0.156s
204  user     0m0.000s
205  sys 0m0.001s
206  ./runner.sh: line 6: 17233 Segmentation fault      (core dumped) ./hello > /dev/null
207
208  real    0m0.155s
209  user     0m0.002s
210  sys 0m0.000s
211  ./runner.sh: line 6: 17239 Segmentation fault      (core dumped) ./hello > /dev/null
212
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt x  [] ...
≡ hello.txt
213  real    0m0.156s
214  user     0m0.002s
215  sys 0m0.000s
216  ./runner.sh: line 6: 17245 Segmentation fault      (core dumped) ./hello > /dev/null
217
218  real    0m0.156s
219  user     0m0.001s
220  sys 0m0.000s
221  ./runner.sh: line 6: 17251 Segmentation fault      (core dumped) ./hello > /dev/null
222
223  real    0m0.163s
224  user     0m0.002s
225  sys 0m0.000s
226  ./runner.sh: line 6: 17257 Segmentation fault      (core dumped) ./hello > /dev/null
227
228  real    0m0.155s
229  user     0m0.001s
230  sys 0m0.000s
231  ./runner.sh: line 6: 17263 Segmentation fault      (core dumped) ./hello > /dev/null
232
233  real    0m0.155s
234  user     0m0.000s
235  sys 0m0.001s
236  ./runner.sh: line 6: 17269 Segmentation fault      (core dumped) ./hello > /dev/null
237
238  real    0m0.156s
239  user     0m0.001s
240  sys 0m0.000s
241  ./runner.sh: line 6: 17275 Segmentation fault      (core dumped) ./hello > /dev/null
242
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello.txt x
hello.txt
242
243 real    0m0.154s
244 user    0m0.001s
245 sys 0m0.000s
246 ./runner.sh: line 6: 17281 Segmentation fault      (core dumped) ./hello > /dev/null
247
248 real    0m0.157s
249 user    0m0.002s
250 sys 0m0.000s
251
```

## hello2.txt File

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x
hello2.txt
1  ./runner.sh: line 5: 16982 Segmentation fault      (core dumped) ./hello2 > /dev/null
2
3  real    0m0.164s
4  user    0m0.000s
5  sys 0m0.002s
6  ./runner.sh: line 5: 16988 Segmentation fault      (core dumped) ./hello2 > /dev/null
7
8  real    0m0.160s
9  user    0m0.002s
10 sys 0m0.000s
11 ./runner.sh: line 5: 16994 Segmentation fault      (core dumped) ./hello2 > /dev/null
12
13 real    0m0.159s
14 user    0m0.000s
15 sys 0m0.001s
16 ./runner.sh: line 5: 17000 Segmentation fault      (core dumped) ./hello2 > /dev/null
17
18 real    0m0.158s
19 user    0m0.002s
20 sys 0m0.000s
21 ./runner.sh: line 5: 17006 Segmentation fault      (core dumped) ./hello2 > /dev/null
22
23 real    0m0.161s
24 user    0m0.001s
25 sys 0m0.000s
26 ./runner.sh: line 5: 17012 Segmentation fault      (core dumped) ./hello2 > /dev/null
27
28 real    0m0.168s
29 user    0m0.002s
30 sys 0m0.000s
31 ./runner.sh: line 5: 17018 Segmentation fault      (core dumped) ./hello2 > /dev/null
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x  []  ...  
hello2.txt  
32  
33 real    0m0.175s  
34 user    0m0.001s  
35 sys 0m0.001s  
36 ./runner.sh: line 5: 17024 Segmentation fault      (core dumped) ./hello2 > /dev/null  
37  
38 real    0m0.167s  
39 user    0m0.001s  
40 sys 0m0.001s  
41 ./runner.sh: line 5: 17030 Segmentation fault      (core dumped) ./hello2 > /dev/null  
42  
43 real    0m0.172s  
44 user    0m0.001s  
45 sys 0m0.000s  
46 ./runner.sh: line 5: 17036 Segmentation fault      (core dumped) ./hello2 > /dev/null  
47  
48 real    0m0.171s  
49 user    0m0.002s  
50 sys 0m0.000s  
51 ./runner.sh: line 5: 17042 Segmentation fault      (core dumped) ./hello2 > /dev/null  
52  
53 real    0m0.160s  
54 user    0m0.001s  
55 sys 0m0.000s  
56 ./runner.sh: line 5: 17048 Segmentation fault      (core dumped) ./hello2 > /dev/null  
57  
58 real    0m0.183s  
59 user    0m0.001s  
60 sys 0m0.000s  
61 ./runner.sh: line 5: 17054 Segmentation fault      (core dumped) ./hello2 > /dev/null  
62
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x  []  ...  
hello2.txt  
63 real    0m0.169s  
64 user    0m0.001s  
65 sys 0m0.000s  
66 ./runner.sh: line 5: 17060 Segmentation fault      (core dumped) ./hello2 > /dev/null  
67  
68 real    0m0.159s  
69 user    0m0.000s  
70 sys 0m0.001s  
71 ./runner.sh: line 5: 17066 Segmentation fault      (core dumped) ./hello2 > /dev/null  
72  
73 real    0m0.161s  
74 user    0m0.002s  
75 sys 0m0.000s  
76 ./runner.sh: line 5: 17072 Segmentation fault      (core dumped) ./hello2 > /dev/null  
77  
78 real    0m0.206s  
79 user    0m0.001s  
80 sys 0m0.000s  
81 ./runner.sh: line 5: 17078 Segmentation fault      (core dumped) ./hello2 > /dev/null  
82  
83 real    0m0.243s  
84 user    0m0.001s  
85 sys 0m0.000s  
86 ./runner.sh: line 5: 17084 Segmentation fault      (core dumped) ./hello2 > /dev/null  
87  
88 real    0m0.177s  
89 user    0m0.001s  
90 sys 0m0.000s  
91 ./runner.sh: line 5: 17090 Segmentation fault      (core dumped) ./hello2 > /dev/null  
92
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt X  ...
hello2.txt
93  real    0m0.165s
94  user    0m0.001s
95  sys 0m0.001s
96  ./runner.sh: line 5: 17096 Segmentation fault      (core dumped) ./hello2 > /dev/null
97
98  real    0m0.160s
99  user    0m0.002s
100 sys 0m0.000s
101 ./runner.sh: line 5: 17102 Segmentation fault      (core dumped) ./hello2 > /dev/null
102
103 real    0m0.168s
104 user    0m0.002s
105 sys 0m0.000s
106 ./runner.sh: line 5: 17108 Segmentation fault      (core dumped) ./hello2 > /dev/null
107
108 real    0m0.156s
109 user    0m0.001s
110 sys 0m0.000s
111 ./runner.sh: line 5: 17114 Segmentation fault      (core dumped) ./hello2 > /dev/null
112
113 real    0m0.157s
114 user    0m0.000s
115 sys 0m0.001s
116 ./runner.sh: line 5: 17120 Segmentation fault      (core dumped) ./hello2 > /dev/null
117
118 real    0m0.155s
119 user    0m0.002s
120 sys 0m0.000s
121 ./runner.sh: line 5: 17126 Segmentation fault      (core dumped) ./hello2 > /dev/null
122
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt X  ...
hello2.txt
123 real    0m0.156s
124 user    0m0.001s
125 sys 0m0.000s
126 ./runner.sh: line 5: 17132 Segmentation fault      (core dumped) ./hello2 > /dev/null
127
128 real    0m0.157s
129 user    0m0.001s
130 sys 0m0.000s
131 ./runner.sh: line 5: 17138 Segmentation fault      (core dumped) ./hello2 > /dev/null
132
133 real    0m0.175s
134 user    0m0.002s
135 sys 0m0.000s
136 ./runner.sh: line 5: 17144 Segmentation fault      (core dumped) ./hello2 > /dev/null
137
138 real    0m0.168s
139 user    0m0.001s
140 sys 0m0.000s
141 ./runner.sh: line 5: 17150 Segmentation fault      (core dumped) ./hello2 > /dev/null
142
143 real    0m0.165s
144 user    0m0.000s
145 sys 0m0.001s
146 ./runner.sh: line 5: 17156 Segmentation fault      (core dumped) ./hello2 > /dev/null
147
148 real    0m0.189s
149 user    0m0.001s
150 sys 0m0.000s
151 ./runner.sh: line 5: 17164 Segmentation fault      (core dumped) ./hello2 > /dev/null
152
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x  ...
hello2.txt
151 ./runner.sh: line 5: 17164 Segmentation fault      (core dumped) ./hello2 > /dev/null
152
153 real    0m0.204s
154 user    0m0.001s
155 sys 0m0.000s
156 ./runner.sh: line 5: 17170 Segmentation fault      (core dumped) ./hello2 > /dev/null
157
158 real    0m0.177s
159 user    0m0.001s
160 sys 0m0.000s
161 ./runner.sh: line 5: 17176 Segmentation fault      (core dumped) ./hello2 > /dev/null
162
163 real    0m0.164s
164 user    0m0.001s
165 sys 0m0.000s
166 ./runner.sh: line 5: 17182 Segmentation fault      (core dumped) ./hello2 > /dev/null
167
168 real    0m0.161s
169 user    0m0.001s
170 sys 0m0.000s
171 ./runner.sh: line 5: 17188 Segmentation fault      (core dumped) ./hello2 > /dev/null
172
173 real    0m0.174s
174 user    0m0.001s
175 sys 0m0.000s
176 ./runner.sh: line 5: 17194 Segmentation fault      (core dumped) ./hello2 > /dev/null
177
178 real    0m0.223s
179 user    0m0.001s
180 sys 0m0.000s
181 ./runner.sh: line 5: 17200 Segmentation fault      (core dumped) ./hello2 > /dev/null
182
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x  [] ...
hello2.txt
182
183   real    0m0.217s
184   user    0m0.001s
185   sys 0m0.000s
186   ./runner.sh: line 5: 17206 Segmentation fault      (core dumped) ./hello2 > /dev/null
187
188   real    0m0.186s
189   user    0m0.001s
190   sys 0m0.000s
191   ./runner.sh: line 5: 17212 Segmentation fault      (core dumped) ./hello2 > /dev/null
192
193   real    0m0.188s
194   user    0m0.001s
195   sys 0m0.001s
196   ./runner.sh: line 5: 17218 Segmentation fault      (core dumped) ./hello2 > /dev/null
197
198   real    0m0.182s
199   user    0m0.001s
200   sys 0m0.000s
201   ./runner.sh: line 5: 17224 Segmentation fault      (core dumped) ./hello2 > /dev/null
202
203   real    0m0.155s
204   user    0m0.001s
205   sys 0m0.000s
206   ./runner.sh: line 5: 17230 Segmentation fault      (core dumped) ./hello2 > /dev/null
207
208   real    0m0.157s
209   user    0m0.002s
210   sys 0m0.000s
211   ./runner.sh: line 5: 17236 Segmentation fault      (core dumped) ./hello2 > /dev/null
212
```

```
ASM hello1.asm  ASM hello2.asm  runner.sh  hello2.txt x  [] ...
hello2.txt
211   ./runner.sh: line 5: 17230 Segmentation fault      (core dumped) ./hello2 > /dev/null
212
213   real    0m0.154s
214   user    0m0.001s
215   sys 0m0.000s
216   ./runner.sh: line 5: 17242 Segmentation fault      (core dumped) ./hello2 > /dev/null
217
218   real    0m0.155s
219   user    0m0.001s
220   sys 0m0.000s
221   ./runner.sh: line 5: 17248 Segmentation fault      (core dumped) ./hello2 > /dev/null
222
223   real    0m0.155s
224   user    0m0.000s
225   sys 0m0.001s
226   ./runner.sh: line 5: 17254 Segmentation fault      (core dumped) ./hello2 > /dev/null
227
228   real    0m0.156s
229   user    0m0.001s
230   sys 0m0.000s
231   ./runner.sh: line 5: 17260 Segmentation fault      (core dumped) ./hello2 > /dev/null
232
233   real    0m0.155s
234   user    0m0.001s
235   sys 0m0.000s
236   ./runner.sh: line 5: 17266 Segmentation fault      (core dumped) ./hello2 > /dev/null
237
238   real    0m0.154s
239   user    0m0.001s
240   sys 0m0.000s
241   ./runner.sh: line 5: 17272 Segmentation fault      (core dumped) ./hello2 > /dev/null
242
```

hello1.asm

hello2.asm

runner.sh

hello2.txt ×

hello2.txt

242

243 real 0m0.154s

244 user 0m0.002s

245 sys 0m0.000s

246 ./runner.sh: line 5: 17278 Segmentation fault (core dumped) ./hello2 > /dev/null

247

248 real 0m0.154s

249 user 0m0.001s

250 sys 0m0.000s

251