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cs-35l / assignment6 / lab.txt

prithvikannan fixed bug with make and created submission tarball
f2881d5 on Nov 7

1 contributor

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340 lines (330 sloc)14.2 KB

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1 1. wget https://web.cs.ucla.edu/classes/fall19/cs35l/assign/simpgmp.c
2     Grab the simpgmp source code
3 gcc -lgmp simpgmp.c -o simpgmp
4     Compile simpgmp using the -lgmp flag
5
6 2. ./simpgmp 24
7     Outputs "16777216" which is 2**24
8 ./simpgmp 16777216
9     Outputs an enormous file that ends with "884097536" which matches the
10    question.
11 man cut
12     Discovered how to print only 10 characters
13 ./simpgmp 16777216 | cut -c-10
14     Shows the first 10 characters are "1818585298"
15 man wc
16     Found the -m flag counts characters
17 ./simpgmp 16777216 | wc -m
18     Outputs 5050446 meaning there are that many digits in the answer,
19     which matches the question.
20
21 3. man ldd
22     Looked at documentation for ldd
23 ldd ./simpgmp
24     linux-vdso.so.1 => (0x00007ffd7cd91000)
25     libgmp.so.3 => /usr/lib64/libgmp.so.3 (0x00000037f5600000)
26     libc.so.6 => /lib64/libc.so.6 (0x00000037f4200000)
27     /lib64/ld-linux-x86-64.so.2 (0x000055e8293dc000)
28
29 4. man strace
30     Looked at documentation for strace
31 strace -c ./simpgmp 24
32      % time   seconds  usecs/call   calls   errors syscall
33      -----
34      0.00    0.000000      0          2        read
35      0.00    0.000000      0          1        write
36      0.00    0.000000      0          3        open
37      0.00    0.000000      0          3        close
38      0.00    0.000000      0          4        fstat
39      0.00    0.000000      0         11        mmap
40      0.00    0.000000      0          4        mprotect
41      0.00    0.000000      0          1        munmap
42      0.00    0.000000      0          3        brk
43      0.00    0.000000      0          1        1 access
44      0.00    0.000000      0          1        execve
45      0.00    0.000000      0          1        arch_prctl
46      -----
47      100.00   0.000000          35        1 total
48
49 5. ls /usr/bin | awk '(NR-405110096)%251 == 0'
50     autoconf
51     db43_recover
```

```

52     foomatic-configure
53     gsnd
54     jdb
55     libgnutls-extra-config
56     mysqltest
57     pbmtextps
58     pnmtpalm
59     reporter-mailx
60     sopranocmd
61     vino-passwd
62
63 6.  ldd /usr/bin/autoconf
64     not a dynamic executable
65 ldd /usr/bin/db43_recover
66     linux-vdso.so.1 => (0x00007fffd7adf000)
67     libdb-4.3.so => /lib64/libdb-4.3.so (0x0000003c72800000)
68     libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
69     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
70     /lib64/ld-linux-x86-64.so.2 (0x0000558c3579c000)
71 ldd /usr/bin/foomatic-configure
72     not a dynamic executable
73 ldd /usr/bin/gsnd
74     not a dynamic executable
75 ldd /usr/bin/jdb
76     linux-vdso.so.1 => (0x00007ffca8fe4000)
77     libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
78     libjli.so => not found
79     libdl.so.2 => /lib64/libdl.so.2 (0x0000003c73000000)
80     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
81     /lib64/ld-linux-x86-64.so.2 (0x000055a8c8480000)
82 ldd /usr/bin/libgnutls-extra-config
83     not a dynamic executable
84 ldd /usr/bin/mysqltest
85     linux-vdso.so.1 => (0x00007ffdbff28000)
86     libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
87     libmysqlclient_r.so.16 => /usr/lib64/mysql/libmysqlclient_r.so.16 (0x0000003829000000)
88     libcrypt.so.1 => /lib64/libcrypt.so.1 (0x0000003c81000000)
89     libnsl.so.1 => /lib64/libnsl.so.1 (0x0000003c81800000)
90     libssl.so.10 => /usr/lib64/libssl.so.10 (0x0000003829800000)
91     libcrypto.so.10 => /usr/lib64/libcrypto.so.10 (0x0000003829400000)
92     libz.so.1 => /lib64/libz.so.1 (0x0000003c73400000)
93     libstdc++.so.6 => /usr/lib64/libstdc++.so.6 (0x0000003c79400000)
94     libm.so.6 => /lib64/libm.so.6 (0x0000003c72800000)
95     libgcc_s.so.1 => /lib64/libgcc_s.so.1 (0x0000003c78c00000)
96     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
97     /lib64/ld-linux-x86-64.so.2 (0x00005598fc200000)
98     libfreebl3.so => /lib64/libfreebl3.so (0x0000003c80800000)
99     libgssapi_krb5.so.2 => /lib64/libgssapi_krb5.so.2 (0x0000003c7f400000)
100    libkrb5.so.3 => /lib64/libkrb5.so.3 (0x0000003c7e400000)
101    libcom_err.so.2 => /lib64/libcom_err.so.2 (0x0000003c7dc00000)
102    lib5crypto.so.3 => /lib64/lib5crypto.so.3 (0x0000003c7e800000)
103    libdl.so.2 => /lib64/libdl.so.2 (0x0000003c73000000)
104    libkrb5support.so.0 => /lib64/libkrb5support.so.0 (0x0000003c7e000000)
105    libkeyutils.so.1 => /lib64/libkeyutils.so.1 (0x0000003c7ec00000)
106    libresolv.so.2 => /lib64/libresolv.so.2 (0x0000003c74400000)
107    libselinux.so.1 => /lib64/libselinux.so.1 (0x0000003c74000000)
108 ldd /usr/bin/pbmtextps
109     linux-vdso.so.1 => (0x00007ffe827ca000)
110     libm.so.6 => /lib64/libm.so.6 (0x0000003c72800000)
111     libnetpbm.so.10 => /usr/lib64/libnetpbm.so.10 (0x0000003c72c00000)
112     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
113     /lib64/ld-linux-x86-64.so.2 (0x000055a0c7e91000)
114 ldd /usr/bin/pnmtpalm
115     linux-vdso.so.1 => (0x00007ffc36aa5000)
116     libnetpbm.so.10 => /usr/lib64/libnetpbm.so.10 (0x0000003c72c00000)
117     libm.so.6 => /lib64/libm.so.6 (0x0000003c72800000)

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118     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
119     /lib64/ld-linux-x86-64.so.2 (0x000055d86f053000)
120 ldd /usr/bin/reporter-mailx
121     linux-vdso.so.1 => (0x00007ffe177cb000)
122     libreport.so.0 => /usr/lib64/libreport.so.0 (0x0000003c84800000)
123     libtar.so.1 => /usr/lib64/libtar.so.1 (0x0000003c83c00000)
124     libjson-c.so.2 => /lib64/libjson-c.so.2 (0x0000003c86200000)
125     libglib-2.0.so.0 => /lib64/libglib-2.0.so.0 (0x0000003c73c00000)
126     libaugeas.so.0 => /usr/lib64/libaugeas.so.0 (0x0000003c84c00000)
127     libsattr.so.3 => /usr/lib64/libsattr.so.3 (0x0000003c85a00000)
128     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
129     librt.so.1 => /lib64/librt.so.1 (0x0000003c73800000)
130     libfa.so.1 => /usr/lib64/libfa.so.1 (0x0000003c83400000)
131     libxml2.so.2 => /usr/lib64/libxml2.so.2 (0x0000003c7f000000)
132     libselinux.so.1 => /lib64/libselinux.so.1 (0x0000003c74000000)
133     libstdc++.so.6 => /usr/lib64/libstdc++.so.6 (0x0000003c79400000)
134     librpm.so.1 => /usr/lib64/librpm.so.1 (0x0000003c81800000)
135     libdl.so.2 => /lib64/libdl.so.2 (0x0000003c73000000)
136     libdw.so.1 => /usr/lib64/libdw.so.1 (0x0000003c82c00000)
137     libelf.so.1 => /usr/lib64/libelf.so.1 (0x0000003c79c00000)
138     libz.so.1 => /lib64/libz.so.1 (0x0000003c73400000)
139     /lib64/ld-linux-x86-64.so.2 (0x000055e50be84000)
140     libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
141     libm.so.6 => /lib64/libm.so.6 (0x0000003c72800000)
142     libgcc_s.so.1 => /lib64/libgcc_s.so.1 (0x0000003c78c00000)
143     librpmio.so.1 => /usr/lib64/librpmio.so.1 (0x0000003c80400000)
144     libnss3.so => /usr/lib64/libnss3.so (0x0000003c84000000)
145     libbz2.so.1 => /lib64/libbz2.so.1 (0x0000003c7fc00000)
146     liblzma.so.0 => /usr/lib64/liblzma.so.0 (0x0000003c80000000)
147     liblua-5.1.so => /usr/lib64/liblua-5.1.so (0x0000003c83000000)
148     libpopt.so.0 => /lib64/libpopt.so.0 (0x0000003c84400000)
149     libcap.so.2 => /lib64/libcap.so.2 (0x0000003c7cc00000)
150     libacl.so.1 => /lib64/libacl.so.1 (0x0000003c81c00000)
151     libdb-4.7.so => /lib64/libdb-4.7.so (0x0000003c7b800000)
152     libnssutil3.so => /usr/lib64/libnssutil3.so (0x0000003c83800000)
153     libplc4.so => /lib64/libplc4.so (0x0000003c82000000)
154     libplds4.so => /lib64/libplds4.so (0x0000003c82800000)
155     libnspr4.so => /lib64/libnspr4.so (0x0000003c82400000)
156     libattr.so.1 => /lib64/libattr.so.1 (0x0000003c81400000)
157 ldd /usr/bin/sopranocmd
158     linux-vdso.so.1 => (0x00007fff27178000)
159     libsopranoclient.so.1 => /usr/lib64/libsopranoclient.so.1 (0x0000003830e00000)
160     libQtCore.so.4 => /usr/lib64/libQtCore.so.4 (0x0000003c7a400000)
161     libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
162     libsoprano.so.4 => /usr/lib64/libsoprano.so.4 (0x0000003c8e600000)
163     libsopranoindex.so.1 => /usr/lib64/libsopranoindex.so.1 (0x0000003c75000000)
164     libQtNetwork.so.4 => /usr/lib64/libQtNetwork.so.4 (0x0000003829c00000)
165     libQtXml.so.4 => /usr/lib64/libQtXml.so.4 (0x0000003c79800000)
166     libQtDBus.so.4 => /usr/lib64/libQtDBus.so.4 (0x000000382a000000)
167     libclucene.so.0 => /usr/lib64/libclucene.so.0 (0x0000003c74c00000)
168     libstdc++.so.6 => /usr/lib64/libstdc++.so.6 (0x0000003c79400000)
169     libm.so.6 => /lib64/libm.so.6 (0x0000003c72800000)
170     libgcc_s.so.1 => /lib64/libgcc_s.so.1 (0x0000003c78c00000)
171     libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
172     libz.so.1 => /lib64/libz.so.1 (0x0000003c73400000)
173     libdl.so.2 => /lib64/libdl.so.2 (0x0000003c73000000)
174     libgthread-2.0.so.0 => /lib64/libgthread-2.0.so.0 (0x0000003c74800000)
175     librt.so.1 => /lib64/librt.so.1 (0x0000003c73800000)
176     libglib-2.0.so.0 => /lib64/libglib-2.0.so.0 (0x0000003c73c00000)
177     /lib64/ld-linux-x86-64.so.2 (0x000055ad8c592000)
178     libssl.so.10 => /usr/lib64/libssl.so.10 (0x0000003829800000)
179     libcrypto.so.10 => /usr/lib64/libcrypto.so.10 (0x0000003829400000)
180     libdbus-1.so.3 => /lib64/libdbus-1.so.3 (0x0000003829000000)
181     libgssapi_krb5.so.2 => /lib64/libgssapi_krb5.so.2 (0x0000003c7f400000)
182     libkrb5.so.3 => /lib64/libkrb5.so.3 (0x0000003c7e400000)
183     libcom_err.so.2 => /lib64/libcom_err.so.2 (0x0000003c7dc00000)
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184 libk5crypto.so.3 => /lib64/libk5crypto.so.3 (0x0000003c7e800000)
185 libkrb5support.so.0 => /lib64/libkrb5support.so.0 (0x0000003c7e000000)
186 libkeyutils.so.1 => /lib64/libkeyutils.so.1 (0x0000003c7ec00000)
187 libresolv.so.2 => /lib64/libresolv.so.2 (0x0000003c74400000)
188 libselinux.so.1 => /lib64/libselinux.so.1 (0x0000003c74000000)
189 ldd /usr/bin/vino-passwd
190 linux-vdso.so.1 => (0x00007ffc813f9000)
191 libgconf-2.so.4 => /usr/lib64/libgconf-2.so.4 (0x000000382a000000)
192 libgobject-2.0.so.0 => /lib64/libgobject-2.0.so.0 (0x0000003c74c00000)
193 libgnome-keyring.so.0 => /usr/lib64/libgnome-keyring.so.0 (0x000000382ac00000)
194 libglib-2.0.so.0 => /lib64/libglib-2.0.so.0 (0x0000003c73c00000)
195 libpthread.so.0 => /lib64/libpthread.so.0 (0x0000003c72c00000)
196 libc.so.6 => /lib64/libc.so.6 (0x0000003c72400000)
197 libgmodule-2.0.so.0 => /lib64/libgmodule-2.0.so.0 (0x0000003c79000000)
198 libORBit-2.so.0 => /usr/lib64/libORBit-2.so.0 (0x0000003c83000000)
199 libdbus-1.so.3 => /lib64/libdbus-1.so.3 (0x0000003829000000)
200 libgthread-2.0.so.0 => /lib64/libgthread-2.0.so.0 (0x0000003c74800000)
201 librt.so.1 => /lib64/librt.so.1 (0x0000003c73800000)
202 /lib64/ld-linux-x86-64.so.2 (0x000055dae8f03000)
203 libdl.so.2 => /lib64/libdl.so.2 (0x0000003c73000000)
204
205 The error message that shows up for autoconf is that "not a dynamic
206 executable" which means that the loader for the executable is not
207 available to the program.
208
209
210 7. for i in $(ls /usr/bin | awk 'NR%101==405110096%101')
211 do
212     ldd '/usr/bin/'$i
213 done |
214 grep o |
215 sed "s/=>.*//g" |
216 sed "s/([^(^)]*)//g" |
217 sort -u
218
219 /lib64/ld-linux-x86-64.so.2
220 libacl.so.1
221 libapr-1.so.0
222 libaprutil-1.so.0
223 libattr.so.1
224 libaudit.so.1
225 libaugeas.so.0
226 libavahi-client.so.3
227 libavahi-common.so.3
228 libblkid.so.1
229 libbz2.so.1
230 libcap-ng.so.0
231 libcap.so.2
232 libcolorprivate.so.2
233 libcolor.so.2
234 libcom_err.so.2
235 libcroco-0.6.so.3
236 libcrypto.so.10
237 libcrypt.so.1
238 libc.so.6
239 libdb-5.3.so
240 libdbus-1.so.3
241 libdevmapper.so.1.02
242 libdl.so.2
243 libdw.so.1
244 libelf.so.1
245 libexpat.so.1
246 libfa.so.1
247 libffi.so.6
248 libfreebl3.so
249 libgcc_s.so.1

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250 libgcrypt.so.11
251 libgettextlib-0.19.8.1.so
252 libgettextsrc-0.19.8.1.so
253 libgio-2.0.so.0
254 libglib-2.0.so.0
255 libgmodule-2.0.so.0
256 libgobject-2.0.so.0
257 libgomp.so.1
258 libgpg-error.so.0
259 libgssapi_krb5.so.2
260 libgthread-2.0.so.0
261 libICE.so.6
262 libiodbc.so.2
263 libjson-c.so.2
264 libk5crypto.so.3
265 libkeyutils.so.1
266 libkrb5.so.3
267 libkrb5support.so.0
268 liblcms2.so.2
269 libldns.so.1
270 liblua-5.1.so
271 liblz4.so.1
272 liblzma.so.5
273 liblz02.so.2
274 libmagic.so.1
275 libmount.so.1
276 libm.so.6
277 libncurses.so.5
278 libncursesw.so.5
279 libnetpbm.so.11
280 libnl-3.so.200
281 libnl-cli-3.so.200
282 libnl-genl-3.so.200
283 libnl-idiag-3.so.200
284 libnl-nf-3.so.200
285 libnl-route-3.so.200
286 libnspr4.so
287 libnss3.so
288 libnssutil3.so
289 libpcap.so.1
290 libpcp.so.3
291 libpcre.so.1
292 libplc4.so
293 libplds4.so
294 libpopt.so.0
295 libprocps.so.4
296 libpthread.so.0
297 libQtCore.so.4
298 libQtXml.so.4
299 libreport.so.0
300 libresolv.so.2
301 librpmio.so.3
302 librpm.so.3
303 librt.so.1
304 libsasl2.so.3
305 libsatisfy.so.3
306 libsctp.so.1
307 libselinux.so.1
308 libsepol.so.1
309 libsmime3.so
310 libSM.so.6
311 libsnappy.so.1
312 libsqlite3.so.0
313 libssl3.so
314 libstdc++.so.6
315 libsvn_delta-1.so.0
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316      libsvn_fs-1.so.0
317      libsvn_fs_base-1.so.0
318      libsvn_fs_fs-1.so.0
319      libsvn_fs_util-1.so.0
320      libsvn_repos-1.so.0
321      libsvn_subr-1.so.0
322      libsystemd.so.0
323      libtar.so.1
324      libtinfo.so.5
325      libudev.so.1
326      libunistring.so.0
327      libuuid.so.1
328      libX11.so.6
329      libXau.so.6
330      libXaw.so.7
331      libxcb.so.1
332      libXext.so.6
333      libxml2.so.2
334      libXmu.so.6
335      libXpm.so.4
336      libXt.so.6
337      libz.so.1
338      linux-vdso.so.1
339      not a dynamic executable
340
```