

Lab Exercise 5 - CT213 Computer Systems & Organizaton

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1 Part 1

I do not have the ability to connect the raspberry pi to the internet due to issues on my side

2 Part 2

2.1 Code

[illegible]

2.2 GDB Outputs

```

12      MOV r3, #50 /*Count value*/
(gdb) s
13      LDR r0, address_of_varA /*Load varA address in at r0*/
(gdb) s
14      LDR r1, address_of_varB /*Load varB address in at r1*/
(gdb) s
15      LDR r2, address_of_varC /*Load varC address in at r3*/
(gdb) x/50f &varA
0x21024:    25.9205341    90.0541382    94.1085663    49.9458771
0x21034:    13.2441702    52.4334221    27.2505207    25.334486
0x21044:    6.75010252    58.2694435    79.5448837    5.7594924
0x21054:    62.7400818    68.8948288    24.4274693    74.5064697
0x21064:    12.0912628    60.9887314    17.8582516    5.1952467
0x21074:    29.1445923    92.4769592    38.4327011    58.6868668
0x21084:    36.8309822    25.1132965    92.0819931    36.7812309
0x21094:    9.91857719    8.19772911    48.456543    59.9478111
0x210a4:    37.0640717    45.1112671    75.4407043    84.8773346
0x210b4:    41.6538429    42.7749901    43.3295708    49.3400612
0x210c4:    35.2812843    12.1123133    58.97332    23.7946129
0x210d4:    23.8646107    7.38606834    94.4003296    99.4392395
0x210e4:    28.0968895    38.7269058
(gdb) x/50f &varB
0x210ec:    95.5562439    21.129652    85.2476578    76.8711014
0x210fc:    24.3463135    34.0674667    47.4802437    53.4014282
0x2110c:    18.6631603    41.3176537    47.5594902    0.456041902
0x2111c:    99.2470703    36.7572441    24.4946442    19.3672714
0x2112c:    31.8525543    58.9810371    75.2891083    62.3357239
0x2113c:    71.9576187    5.68597221    98.7639236    78.6046982
0x2114c:    27.6804161    55.7645874    39.9271355    22.9990177
0x2115c:    65.6788177    92.6926041    99.7574158    62.2323418
0x2116c:    98.2216492    40.1293602    11.7346077    16.8923721
0x2117c:    14.5545645    72.6715317    87.6881866    1.99496555
0x2118c:    71.6582413    48.2243004    8.76789284    59.2074394
0x2119c:    83.8115692    46.0291634    88.1902847    16.9932728
0x211ac:    88.6330872    14.1348925
(gdb) █

```

Figure 1: VarA/B contents

```
Terminal
0x211b4:      0      0      0      0
0x211c4:      0      0      0      0
0x211d4:      0      0      0      0
0x211e4:      0      0      0      0
0x211f4:      0      0      0      0
0x21204:      0      0      0      0
0x21214:      0      0      0      0
0x21224:      0      0      0      0
0x21234:      0      0      0      0
0x21244:      0      0      0      0
0x21254:      0      0      0      0
0x21264:      0      0      0      0
0x21274:      0      0      0      0
(gdb) break exit
Breakpoint 2 at 0x76e85780: file exit.c, line 139.
(gdb) run
The program being debugged has been started already.
Start it from the beginning? (y or n) y
Starting program: /home/pi/assignment5/addfloats

Breakpoint 2, __GI_exit (status=135404) at exit.c:139
139      exit.c: No such file or directory.
(gdb) x/50f &varC
0x211b4:      121.476776      111.183792      179.356232      126.816978
0x211c4:      37.5904846      86.500885      74.7307663      78.7359161
0x211d4:      25.4132633      99.5870972      127.10437      6.21553421
0x211e4:      161.987152      105.652069      48.9221115      93.8737411
0x211f4:      43.9438171      119.969772      93.1473618      67.5309677
0x21204:      101.102211      98.1629333      137.196625      137.291565
0x21214:      64.5113983      80.8778839      132.009125      59.7802505
0x21224:      75.5973969      100.890335      148.213959      122.180153
0x21234:      135.285721      85.2406311      87.1753082      101.769707
0x21244:      56.2084084      115.446518      131.017761      51.3350258
0x21254:      106.939529      60.3366127      67.7412109      83.0020523
0x21264:      107.676178      53.4152298      182.590607      116.43251
0x21274:      116.72998      52.8617973
```

Figure 2: VarC before/after running