Name: Meet Patel
Student ID: 214304869
2021Z
LAB_C

Part 2:

ORG 0

s: DM   0

p5:   DC   "B = ? "

d0:   DD   10 ; A = 10 (can be changed)

DD -1, -2

```
ld x1, x0, d0
ecall x0, x1, 0

ld x2, x0, p5
ecall x3, x2, 5

ld x5, x0, 0
ld x6, x0, 0

blt x3, x1, IF
blt x1, x3, ELSEIF
beq x1, x3, ELSE

IF: addi x5, x0, 1
addi x6, x0, 2
beq x0, x0, Exit


ELSEIF: addi x5, x0, 5
addi x6, x0, 5
beq x0, x0, Exit


ELSE: addi x5, x0, 0
addi x6, x0, 0
beq x0, x0, Exit

Exit: sd x5, 16(x0)
sd x6, 24(x0)
```

File   Fname: /eecs/home/meet2610/Desktop/eecs2021/Lab3/Lab3Part2.a   Help

```
ORG 0

s:      DM      0

p5:     DC      "B = ? "

d0:     DD      10 ; A = 10 (can be changed)

DD -1, -2

ld x1, x0, d0
ecall x0, x1, 0

ld x2, x0, p5
ecall x3, x2, 5

ld x5, x0, 0
ld x6, x0, 0

blt x3, x1, IF
blt x1, x3, ELSEIF
beq x1, x3, ELSE

IF: addi x5, x0, 1
addi x6, x0, 2
beq x0, x0, Exit

ELSEIF: addi x5, x0, 5
```

Compile   ☑ BIN ☑ HEX ☑ INT ☑ TXT   Source

```
SYMBOL TABLE
0x000000000000005c ELSE
0x0000000000000050 ELSEIF
0x0000000000000068 Exit
0x0000000000000044 IF
0x0000000000000020 START
0x0000000000000008 d0
0x0000000000000000 p5
0x0000000000000000 s
```

InitPC [0x0000000000000020]   START   Stop   Run   Next   ☑ TXT   Listing

```
x0  zero 0x0000000000000000 0
x1  ra   0x0000000000000000 0
x2  sp   0x0000000000000000 0
x3  gp   0x0000000000000000 0
x4  tp   0x0000000000000000 0
x5  t0   0x0000000000000000 0
x6  t1   0x0000000000000000 0
x7  t2   0x0000000000000000 0
x8  s0   0x0000000000000000 0
x9  s1   0x0000000000000000 0
x10 a0   0x0000000000000000 0
x11 a1   0x0000000000000000 0
x12 a2   0x0000000000000000 0
x13 a3   0x0000000000000000 0
x14 a4   0x0000000000000000 0
x15 a5   0x0000000000000000 0
x16 a6   0x0000000000000000 0
x17 a7   0x0000000000000000 0
x18 s2   0x0000000000000000 0
x19 s3   0x0000000000000000 0
x20 s4   0x0000000000000000 0
x21 s5   0x0000000000000000 0
x22 s6   0x0000000000000000 0
x23 s7   0x0000000000000000 0
x24 s8   0x0000000000000000 0
x25 s9   0x0000000000000000 0
x26 s10  0x0000000000000000 0
x27 s11  0x0000000000000000 0
x28 t3   0x0000000000000000 0
x29 t4   0x0000000000000000 0
x30 t5   0x0000000000000000 0
```

Refresh ☑ HEX • INT ○ FLP   Regs

```
MEMORY
ADDRESS              HEXADECIMAL          INTEGER                   FLOAT
0x0000000000000000 0x0020203f1203d2042 9042654750646338          4.485182E-30
0x0000000000000008 0x000000000000000a 10                         4.940656E-32
0x0000000000000010 0xffffffffffffffff -1                         NOT_A_FL
0x0000000000000018 0xfffffffffffffffe -2                         NOT_A_FL
```

Refresh ☑ HEX ☑ INT ☑ FLP ☑ TXT   Memory

Clear   Execution

Cancel   Enter   ☐ INP

```
ORG 0

s:      DM      0

p5:     DC      "B = ? "

d0:     DD      10 ; A = 10 (can be changed)

DD -1, -2

ld x1, x0, d0
ecall x0, x1, 0

ld x2, x0, p5
ecall x3, x2, 5

ld x5, x0, 0
ld x6, x0, 0

blt x3, x1, IF
blt x1, x3, ELSEIF
beq x1, x3, ELSE

IF: addi x5, x0, 1
addi x6, x0, 2
beq x0, x0, Exit

ELSEIF: addi x5, x0, 5
```

Compile   ☑ BIN ☑ HEX ☑ INT ☑ TXT   Source

```
SYMBOL TABLE
0x000000000000005c ELSE
0x0000000000000050 ELSEIF
0x0000000000000068 Exit
0x0000000000000044 IF
0x0000000000000020 START
0x0000000000000008 d0
0x0000000000000000 p5
0x0000000000000000 s
```

InitPC [0x0000000000000070]   START   Stop   Run   Next   ☑ TXT   Listing

```
x0  zero 0x0000000000000000 0
x1  ra   0x000000000000000a 10
x2  sp   0x0020203f1203d2042 9042654750646338
x3  gp   0x0000000000000005 5
x4  tp   0x0000000000000000 0
x5  t0   0x0000000000000001 1
x6  t1   0x0000000000000002 2
x7  t2   0x0000000000000000 0
x8  s0   0x0000000000000000 0
x9  s1   0x0000000000000000 0
x10 a0   0x0000000000000000 0
x11 a1   0x0000000000000000 0
x12 a2   0x0000000000000000 0
x13 a3   0x0000000000000000 0
x14 a4   0x0000000000000000 0
x15 a5   0x0000000000000000 0
x16 a6   0x0000000000000000 0
x17 a7   0x0000000000000000 0
x18 s2   0x0000000000000000 0
x19 s3   0x0000000000000000 0
x20 s4   0x0000000000000000 0
x21 s5   0x0000000000000000 0
x22 s6   0x0000000000000000 0
x23 s7   0x0000000000000000 0
x24 s8   0x0000000000000000 0
x25 s9   0x0000000000000000 0
x26 s10  0x0000000000000000 0
x27 s11  0x0000000000000000 0
x28 t3   0x0000000000000000 0
x29 t4   0x0000000000000000 0
x30 t5   0x0000000000000000 0
```

Refresh ☑ HEX • INT ○ FLP   Regs

```
MEMORY
ADDRESS              HEXADECIMAL          INTEGER                   FLOAT
0x0000000000000000 0x0020203f1203d2042 9042654750646338          4.485182E-30
0x0000000000000008 0x000000000000000a 10                         4.940656E-32
0x0000000000000010 0x0000000000000001 1                          4.940656E-32
0x0000000000000018 0x0000000000000002 2                          9.881313E-32
```

Refresh ☑ HEX ☑ INT ☑ FLP ☑ TXT   Memory

```
RUN
0x0000000000000020 ld    x1 x0 0x008          ld    x1, x0, d0
0x0000000000000024 ecall x3 x2 0x005          ecall x0, x1, 0
0x0000000000000028 ld    x2 x0 0x000          ld    x2, x0, p5
0x000000000000002c ecall x3 x2 0x005          ecall x3, x2, 5
0x0000000000000030 ld    x5 x0 0x000          ld    x5, x0, 0
0x0000000000000034 ld    x6 x0 0x000          ld    x6, x0, 0
0x0000000000000038 blt   x3 x1 0x006          blt   x3, x1, IF
0x0000000000000044 addi  x5 x0 0x001   IF:    addi  x5, x0, 1
0x0000000000000048 addi  x6 x0 0x002          addi  x6, x0, 2
0x000000000000004c beq   x0 x0 0x00e          beq   x0, x0, Exit
0x0000000000000068 sd    x5 x0 0x010   Exit:  sd    x5, 16(x0)
0x000000000000006c sd    x6 x0 0x018          sd    x6, 24(x0)
0x0000000000000070: NO INSTRUCTION
```

```
10
B = ?  75
0x0000000000000005
```

Clear   Execution

Cancel   Enter   ☐ INP

Part 3:

```
ORG 0

s:      DM    0

p5:     DC    "A = "
p6:     DC    "B = "
p7:     DC    "C = "

DD -1, -2

ld x2, x0, p5
ecall x3, x2, 5
ld x2, x0, p6
ecall x4, x2, 5
ld x2, x0, p7
ecall x5, x2, 5

addi x9, x0, 5

beq x5, x9, AND
beq x0, x0, ELSE

AND: blt x4, x3, IF
beq x0, x0, ELSE

IF: addi x10, x0, 1
addi x11, x0, 2
beq x0, x0, Exit

ELSE: addi x10, x0, 0
addi x11, x0, 0

Exit:
sd x10, 24(x0)
sd x11, 32(x0)
```

File   Fname: /eecs/home/meet2610/Desktop/eecs2021/Lab3/Lab3Part3.a   Help

```
ORG 0

s:      DM      0

p5:     DC      "A = "
p6:     DC      "B = "
p7:     DC      "C = "

DD -1, -2

ld x2, x0, p5
ecall x3, x2, 5
ld x2, x0, p6
ecall x4, x2, 5
ld x2, x0, p7
ecall x5, x2, 5

addi x9, x0, 5

beq x5, x9, AND
beq x0, x0, ELSE

AND: blt x4, x3, IF
beq x0, x0, ELSE

IF: addi x10, x0, 1
addi x11, x0, 2
beq x0, x0, Exit
```

Compile   □ BIN ☑ HEX ☑ INT ☑ TXT   Source

```
SYMBOL TABLE
0x000000000000004c AND
0x0000000000000060 ELSE
0x0000000000000068 Exit
0x0000000000000054 IF
0x0000000000000028 START
0x0000000000000000 p5
0x0000000000000008 p6
0x0000000000000010 p7
0x0000000000000000 s
```

InitPC 0x0000000000000028   START   Stop   Run   Next   ☑ TXT   Listing

Registers (top window):
```
x0  zero 0x0000000000000000 0
x1  ra   0x0000000000000000 0
x2  sp   0x0000000000000000 0
x3  gp   0x0000000000000000 0
x4  tp   0x0000000000000000 0
x5  t0   0x0000000000000000 0
x6  t1   0x0000000000000000 0
x7  t2   0x0000000000000000 0
x8  s0   0x0000000000000000 0
x9  s1   0x0000000000000000 0
x10 a0   0x0000000000000000 0
x11 a1   0x0000000000000000 0
x12 a2   0x0000000000000000 0
x13 a3   0x0000000000000000 0
x14 a4   0x0000000000000000 1
x15 a5   0x0000000000000000 0
x16 a6   0x0000000000000000 0
x17 a7   0x0000000000000000 0
x18 s2   0x0000000000000000 0
x19 s3   0x0000000000000000 0
x20 s4   0x0000000000000000 0
x21 s5   0x0000000000000000 0
x22 s6   0x0000000000000000 0
x23 s7   0x0000000000000000 0
x24 s8   0x0000000000000000 0
x25 s9   0x0000000000000000 0
x26 s10  0x0000000000000000 0
x27 s11  0x0000000000000000 0
x28 t3   0x0000000000000000 0
x29 t4   0x0000000000000000 0
x30 t5   0x0000000000000000 0
```

Refresh ☑ HEX • INT ○ FLP   Regs

Memory (top window):
```
MEMORY
ADDRESS            HEXADECIMAL        INTEGER          FLOAT
0x0000000000000000 0x00000000203d2041 540876865       2.672287E-31
0x0000000000000008 0x00000000203d2042 540876866       2.672287E-31
0x0000000000000010 0x00000000203d2043 540876867       2.672287E-31
0x0000000000000018 0xffffffffffffffff -1              NOT_A_FL
0x0000000000000020 0xfffffffffffffffe -2              NOT_A_FL
```

Refresh ☑ HEX ☑ INT ☑ FLP ☑ TXT   Memory

Clear   Execution   Cancel   Clear   □ OUT   Enter   □ INP

```
ORG 0

s:      DM      0

p5:     DC      "A = "
p6:     DC      "B = "
p7:     DC      "C = "

DD -1, -2

ld x2, x0, p5
ecall x3, x2, 5
ld x2, x0, p6
ecall x4, x2, 5
ld x2, x0, p7
ecall x5, x2, 5

addi x9, x0, 5

beq x5, x9, AND
beq x0, x0, ELSE

AND: blt x4, x3, IF
beq x0, x0, ELSE

IF: addi x10, x0, 1
addi x11, x0, 2
beq x0, x0, Exit
```

Compile   □ BIN ☑ HEX ☑ INT ☑ TXT   Source

```
SYMBOL TABLE
0x000000000000004c AND
0x0000000000000060 ELSE
0x0000000000000068 Exit
0x0000000000000054 IF
0x0000000000000028 START
0x0000000000000000 p5
0x0000000000000008 p6
0x0000000000000010 p7
0x0000000000000000 s
```

InitPC 0x0000000000000070   START   Stop   Run   Next   ☑ TXT   Listing

Registers (bottom window):
```
x0  zero 0x0000000000000000 0
x1  ra   0x0000000000000000 0
x2  sp   0x00000000203d2043 540876867
x3  gp   0x000000000000000a 10
x4  tp   0x0000000000000005 5
x5  t0   0x0000000000000005 5
x6  t1   0x0000000000000005 5
x7  t2   0x0000000000000000 0
x8  s0   0x0000000000000000 0
x9  s1   0x0000000000000005 5
x10 a0   0x0000000000000001 1
x11 a1   0x0000000000000002 2
x12 a2   0x0000000000000000 0
x13 a3   0x0000000000000000 0
x14 a4   0x0000000000000000 0
x15 a5   0x0000000000000000 0
x16 a6   0x0000000000000000 0
x17 a7   0x0000000000000000 0
x18 s2   0x0000000000000000 0
x19 s3   0x0000000000000000 0
x20 s4   0x0000000000000000 0
x21 s5   0x0000000000000000 0
x22 s6   0x0000000000000000 0
x23 s7   0x0000000000000000 0
x24 s8   0x0000000000000000 0
x25 s9   0x0000000000000000 0
x26 s10  0x0000000000000000 0
x27 s11  0x0000000000000000 0
x28 t3   0x0000000000000000 0
x29 t4   0x0000000000000000 0
x30 t5   0x0000000000000000 0
```

Refresh ☑ HEX • INT ○ FLP   Regs

Memory (bottom window):
```
MEMORY
ADDRESS            HEXADECIMAL        INTEGER          FLOAT
0x0000000000000000 0x00000000203d2041 540876865       2.672287E-31
0x0000000000000008 0x00000000203d2042 540876866       2.672287E-31
0x0000000000000010 0x00000000203d2043 540876867       2.672287E-31
0x0000000000000018 0x0000000000000001 1               4.940656E-32
0x0000000000000020 0x0000000000000002 2               9.881313E-32
```

Refresh ☑ HEX ☑ INT ☑ FLP ☑ TXT   Memory

Execution (bottom window):
```
RUN
0x0000000000000028 ld     x2 x0 0x000       ld     x2, x0, p5
0x000000000000002c ecall  x3 x2 0x005       ecall  x3, x2, 5
0x0000000000000030 ld     x2 x0 0x008       ld     x2, x0, p6
0x0000000000000034 ecall  x4 x2 0x005       ecall  x4, x2, 5
0x0000000000000038 ld     x2 x0 0x010       ld     x2, x0, p7
0x000000000000003c ecall  x5 x2 0x005       ecall  x5, x2, 5
0x0000000000000040 addi   x9 x0 0x005       addi   x9, x0, 5
0x0000000000000044 beq    x5 x9 0x004       beq    x5, x9, AND
0x000000000000004c blt    x4 x3 0x004  AND: blt    x4, x3, IF
0x0000000000000054 addi   x10 x0 0x001  IF: addi   x10, x0, 1
0x0000000000000058 addi   x11 x0 0x002      addi   x11, x0, 2
0x000000000000005c beq    x0 x0 0x006       beq    x0, x0, Exit
0x0000000000000068 sd     x10 x0 0x018      sd     x10, 24(x0)
0x000000000000006c sd     x11 x0 0x020      sd     x11, 32(x0)
0x0000000000000070: NO INSTRUCTION
```

Output (bottom window):
```
A = ?10
0x000000000000000a
B = ?5
0x0000000000000005
C = ?5
0x0000000000000005
```

Clear   Execution   Cancel   Clear   □ OUT   Enter   □ INP