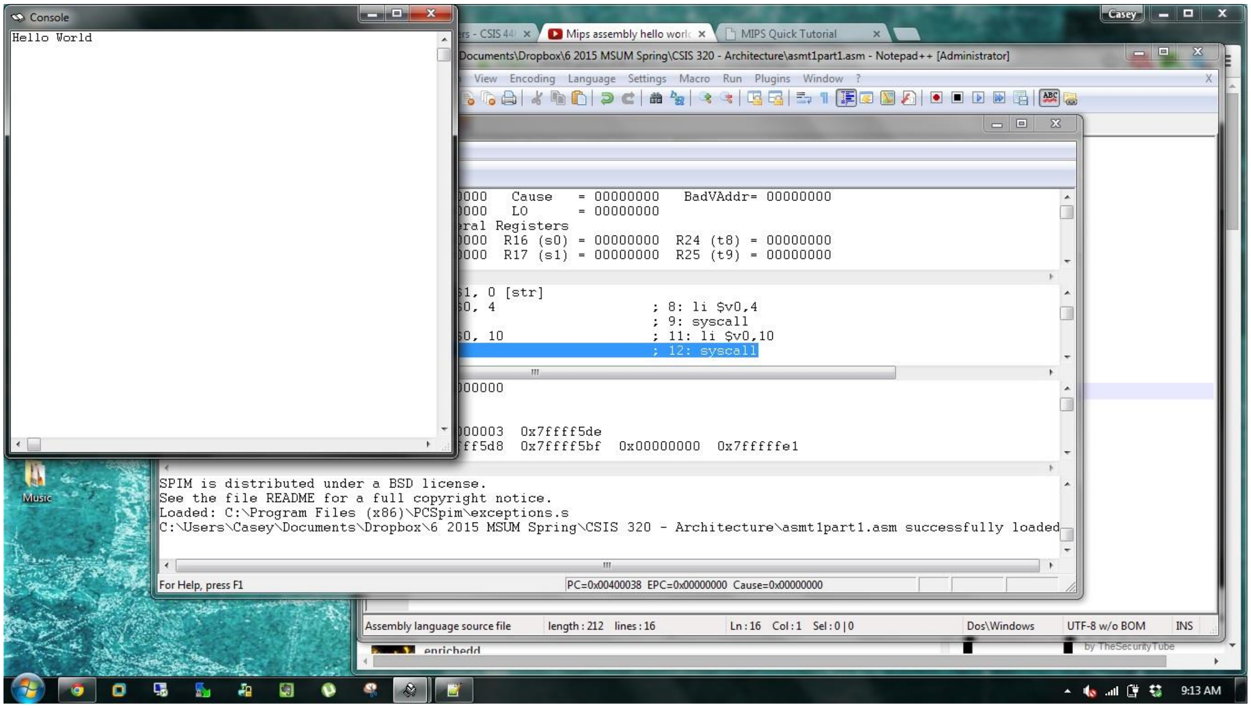
1

```
# Mips assembly hello world program PCSpim
# https://www.youtube.com/watch?v=8dyibkAtaTM

main:
        .text

        la $a0,str
        li $v0,4
        syscall

        li $v0,10
        syscall

                .data
str:    .asciiz "Hello World\n"
```



```
Hello World
```

```
0000   Cause    = 00000000   BadVAddr= 00000000
0000   LO       = 00000000
eral Registers
0000  R16 (s0) = 00000000  R24 (t8) = 00000000
0000  R17 (s1) = 00000000  R25 (t9) = 00000000
```

```
$1, 0 [str]
$0, 4                       ; 8: li $v0,4
                            ; 9: syscall
$0, 10                      ; 11: li $v0,10
                            ; 12: syscall
```

```
000000


000003  0x7ffff5de
fff5d8  0x7ffff5bf  0x00000000  0x7fffffe1
```

```
SPIM is distributed under a BSD license.
See the file README for a full copyright notice.
Loaded: C:\Program Files (x86)\PCSpim\exceptions.s
C:\Users\Casey\Documents\Dropbox\6 2015 MSUM Spring\CSIS 320 - Architecture\asmt1part1.asm successfully loaded
```

For Help, press F1 PC=0x00400038 EPC=0x00000000 Cause=0x00000000

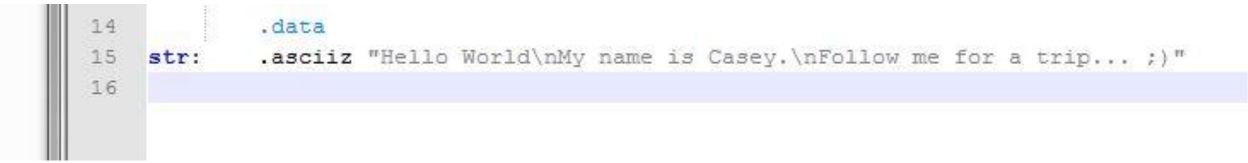
Documents\Dropbox\6 2015 MSUM Spring\CSIS 320 - Architecture\asmt1part1.asm - Notepad++ [Administrator]

Assembly language source file length : 212 lines : 16 Ln : 16 Col : 1 Sel : 0 | 0 Dos\Windows UTF-8 w/o BOM INS

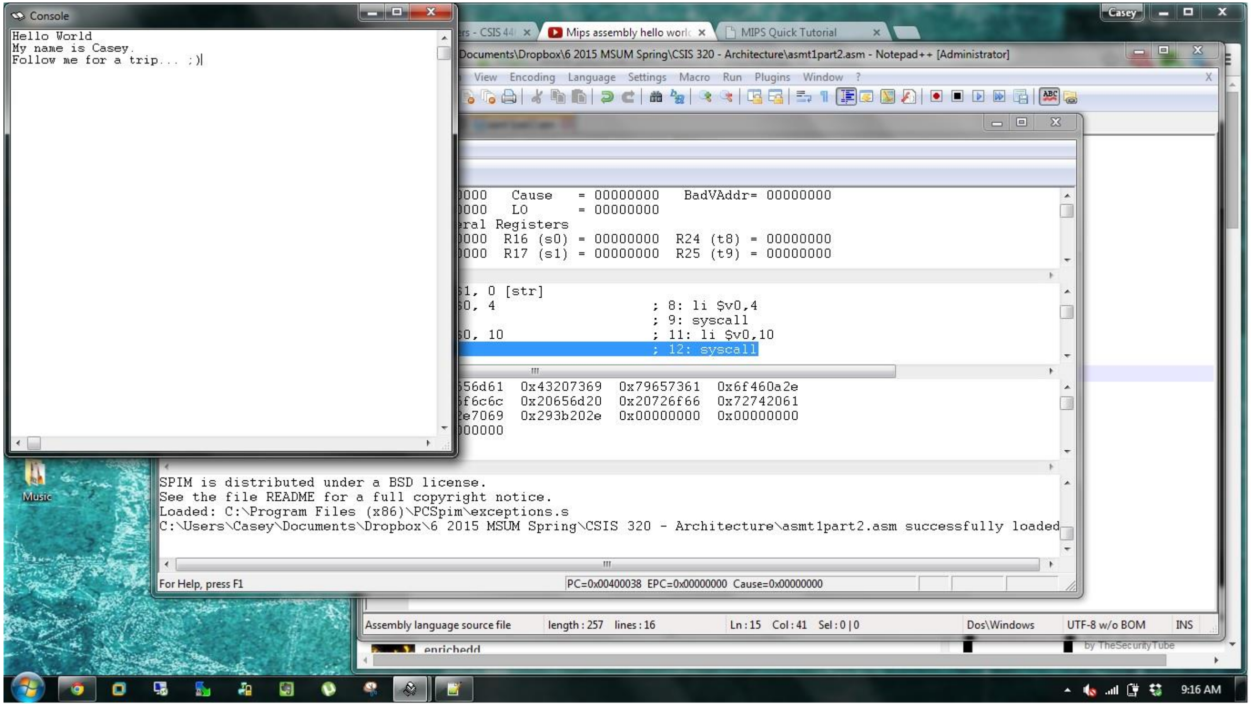
#2

```
# Mips assembly hello world program PCSpim
# https://www.youtube.com/watch?v=8dyibkAtaTM

main:
        .text

        la $a0,str
        li $v0,4
        syscall

        li $v0,10
        syscall
```

```
              .data
str:    .asciiz "Hello World\nMy name is Casey.\nFollow me for a trip... ;)"
```



```
        .data
str:    .asciiz "Hello World\nMy name is Casey.\nFollow me for a trip... ;)"
```



Documents\Dropbox\6 2015 MSUM Spring\CSIS 320 - Architecture\asmt1part2.asm - Notepad++ [Administrator]

```
Hello World
My name is Casey.
Follow me for a trip... ;)
```

```
)000   Cause    = 00000000   BadVAddr= 00000000
)000   LO       = 00000000
eral Registers
)000  R16 (s0) = 00000000  R24 (t8) = 00000000
)000  R17 (s1) = 00000000  R25 (t9) = 00000000
```

```
$1, 0 [str]
$0, 4                    ; 8: li $v0,4
                         ; 9: syscall
$0, 10                   ; 11: li $v0,10
                         ; 12: syscall
```

```
56d61  0x43207369  0x79657361  0x6f460a2e
f6c6c  0x20656d20  0x20726f66  0x72742061
e7069  0x293b202e  0x00000000  0x00000000
)00000
```

```
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Loaded: C:\Program Files (x86)\PCSpim\exceptions.s
C:\Users\Casey\Documents\Dropbox\6 2015 MSUM Spring\CSIS 320 - Architecture\asmt1part2.asm successfully loaded
```

For Help, press F1   PC=0x00400038 EPC=0x00000000 Cause=0x00000000

Assembly language source file   length : 257   lines : 16   Ln : 15   Col : 41   Sel : 0 | 0   Dos\Windows   UTF-8 w/o BOM   INS

#3

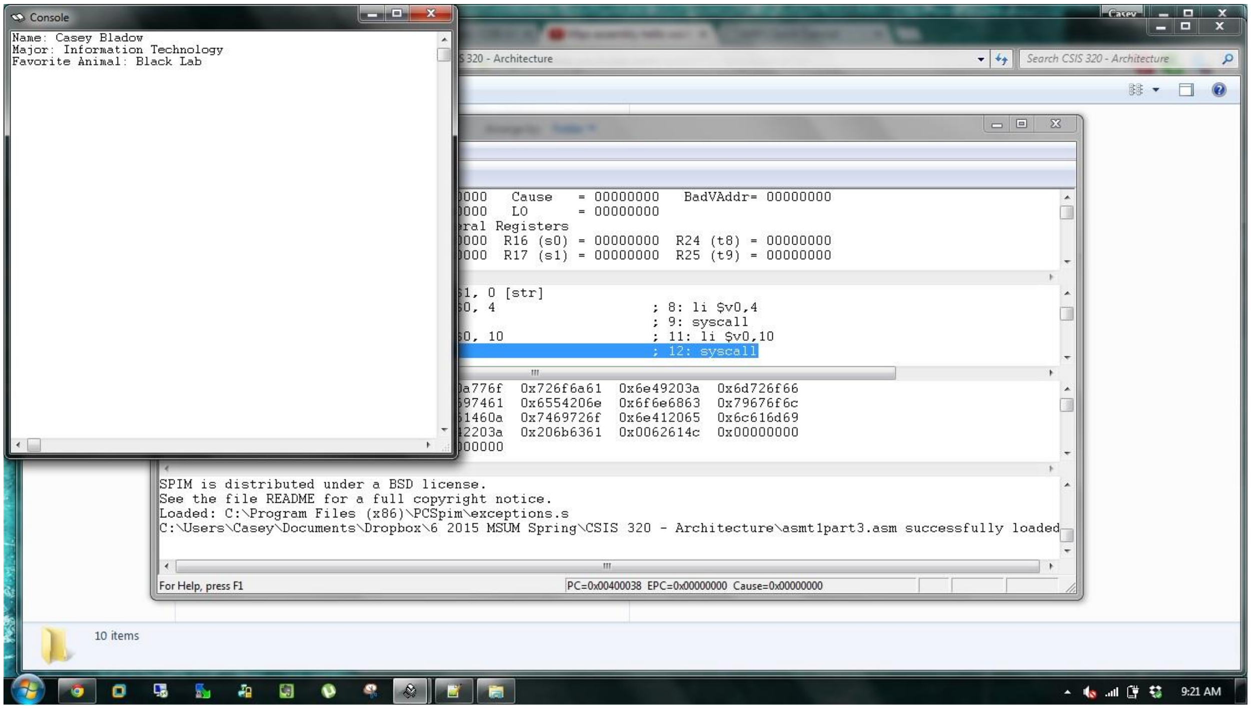
```
# Mips assembly hello world program PCSpim
# https://www.youtube.com/watch?v=8dyibkAtaTM

main:
        .text

        la $a0,str
        li $v0,4
        syscall

        li $v0,10
        syscall

              .data
str:    .asciiz "Name: Casey Bladow\nMajor: Information Technology\nFavorite Animal: Black Lab"
```



```
Name: Casey Bladow
Major: Information Technology
Favorite Animal: Black Lab
```

```
0000   Cause    = 00000000   BadVAddr= 00000000
0000   LO       = 00000000
eral Registers
0000  R16 (s0) = 00000000  R24 (t8) = 00000000
0000  R17 (s1) = 00000000  R25 (t9) = 00000000
```

```
61, 0 [str]
60, 4                     ; 8: li $v0,4
                          ; 9: syscall
60, 10                    ; 11: li $v0,10
                          ; 12: syscall
```

```
0a776f   0x726f6a61   0x6e49203a   0x6d726f66
697461   0x6554206e   0x6f6e6863   0x79676f6c
61460a   0x7469726f   0x6e412065   0x6c616d69
42203a   0x206b6361   0x0062614c   0x00000000
000000
```

```
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Loaded: C:\Program Files (x86)\PCSpim\exceptions.s
C:\Users\Casey\Documents\Dropbox\6 2015 MSUM Spring\CSIS 320 - Architecture\asmt1part3.asm successfully loaded
```

For Help, press F1

PC=0x00400038 EPC=0x00000000 Cause=0x00000000

#4

```
3 Instruction types: R-type, I-type, and J-type.
R-type:
	R-type instructions refer to register type instruction. The most complex.
	add $rd, $rs, $rt
	where $rd refers to some register d. $rs, $rt are also registers.
	R[d] = R[s] + R[t]
	Addition.
I-type:
	I-type is short for "immediate type".
	lw/sw $1,1000($2)
	$1 <-- Mem[$2+1000]
	$1 --> Mem[$2+1000]
J-type:
	J-type is short for "jump type".
	j target
	Jump to instruction (not byte) target
```