CS 0447: Spring 2012 Lab 1

Part 1: Getting started in MIPS assembly language

Questions

Question 1: What decimal number is 0x00000011?

Answer: 17

Question 2: before the first instruction is executed (the program counter is the register labeled "pc"):

  program counter = 0x00400000

Question 3: after the first instruction is executed:

  program counter = 0x00400004

  $t1 = 0x00000003

Question 4: after the second instruction is executed:

  program counter = 0x00400008

  $t1 = 0x00000008

Question 5: after the third instruction is executed:

  program counter = 0x0040000C

  $t1 = 0x00000011

Question 6: Complete this sentence:

  After each instruction, the PC is incremented so that it contains: A word which is 4 bytes.

Question 7: How big are instructions in MIPS?

  Number of bits = 32

  Number of bytes = 4

  Number of words = 1

Part 2: Memory

Question 8:

```
   2A8E
+  CBF3
 --------
   F681
```

Question 9: Does each box shown in the data segment window represent a byte or a word?   Please explain.

Answer: A word. It packs four bytes into a word and shows it on each of the boxes.

Question 10: Answer:

.data
.word 25, 3, 0x44, 0x33, 0x25, 0x3, 16, 0x22, 44, 33, 22

Words	Hex Value
	(show the correct number of digits! 8 hex digits = 32 bits = 1 word)
25	0x00000019
3	0x00000003
0x44	0x00000044
0x33	0x00000033
0x25	0x00000025
0x3	0x00000003
16	0x00000010
0x22	0x00000022
44	0x0000002C
33	0x00000021
22	0x00000016