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CSCI 360-1 C65

Assignment 4

Use the resulting ABEND dump output to answer the questions below. Each is worth 4 points except question 11 which is worth 10 points. You may type your answers over the lines in this document or type your answers into either a new Word or text document being careful to clearly number which question you are answering. Submit your Word or text document on Blackboard.

1. What is the address of the next instruction which would have been executed?
    - 000030
2. What is the value of the condition code at the time of the ABEND?
    - A: 1010, CC == 10
3. What is the length of the instruction that caused the ABEND (number of bytes)?
    - A: 1010, ILC == 10hex or 2(decimal), 2*2 = 4-bytes long.
4. What does the value stored at location counter value 00002C represent?
    - Value stored in 00002C represents NUM3's fullword value in hexadecimal.
5. What is the address of the instruction that caused the abend?
    - Address == 000030 - (2*2) = 00002C
6. What type of error occurred (number and name)?
    - SOC6 error: Specification exception
7. What usually causes this error?
    - Trying to access something(value or variable) not on a proper boundary
8. What does the value in register 7 represent at the time of the ABEND?
    - Value at REG 7 represents the sum of NUM1 and NUM2 in hexadecimal.
9. What instruction needs to be added to fix this ABEND?
    - BCR B'1111',14 UNCONDITIONAL RETURN TO CALLER (OS)
10. Did this error occur (a) while the program was being assembled or (b) when it was being run?
    - When it was being run. B
11. What exactly happened here to cause this ABEND? Be detailed but succinct in your description:
    - Since the BCR instruction was not added as the last executable code, the machine did not know where the program ends. As a result, it will run continuously through each line of code left in memory until an invalid instruction is attempted to be executed, which was most likely the reason as to why the PSW noted the potential line that caused the ABEND was the instruction located in 00002C. The

BCR instruction is needed to return control back to the caller (either the calling program or the operating system.