**CSCI 360 Assignment 4 Name** Noah Flores

**Summer 2021 ABENDs and Dump Reading**

**25 points**

**This programming assignment does not require any further coding or documentation than what is provided. The program will ABEND and your task is to learn how to investigate what happened so that you can debug your own Assembler programs in the future. To begin, run the following program on the Marist mainframe using the ASSIST JCL used previously. Be sure you type it or copy it EXACTLY as shown below:**

DUMPEX CSECT

USING DUMPEX,15 ESTABLISH REG 15 AS BASE REG

\*

SR 7,7 CLEAR REG 7

\*

LA 8,NUM1 LOAD ADDRESS OF NUM1

LA 9,NUM2 LOAD ADDRESS OF NUM2

\*

A 7,0(,8) ADD NUM1 TO REG 7

A 7,0(,9) ADD NUM2 TO REG 7

\*

LA 10,SUMMED LOAD ADDRESS OF SUMMED

ST 7,0(,10) STORE THE SUM OF VARIABLES

\*

XDUMP , DUMP REGS

\*

LTORG

\*

SUMMED DS F FULLWORD OF ZERO TO HOLD SUMMED INTEGERS

\*

NUM1 DC F'972460' RANDOM INTEGER 1

NUM2 DC F'1206000000' RANDOM INTEGER 2

NUM3 DC F'1344335922' RANDOM INTEGER 3

\*

END DUMPEX

**Use the resulting ABEND dump output to answer the questions below. Each is worth 2 points except question 11 which is worth 5 points.**

1. What is the address of the next instruction which would have been executed?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_000030\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the value of the condition code at the time of the ABEND?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_CC is set at 10 (binary)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the length of the instruction that caused the ABEND (number of bytes)?

\_\_\_\_\_\_\_\_\_\_\_\_\_ 4 bytes\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What is the address of the instruction that caused the abend?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_00002C \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What type of error occurred (number and name)?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_0006 Specification exception\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What usually causes this error?

\_\_An instruction that requires a boundary is referencing an address that is not on the appropriate boundary.\_\_

1. What does the value in register 7 represent at the time of the ABEND dump?

\_\_\_The sum of NUM 1 and NUM is stored in reg 7.\_\_\_

1. What instruction needs to be added to fix this ABEND?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_BR 14 under the XDUMP\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What does the value stored at location counter value 00002C represent?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_The last instruction done before ABEND\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Did this error occur (a) while the program was being assembled or (b) when it was being run?

\_\_\_\_\_\_\_\_\_\_\_\_b. The error occurred when the program was running.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. What exactly happened here to cause the ABEND? Be detailed but succinct in your description.

\_\_\_The program was missing a BCR (Branch condition) which would return to caller and have ended the program. Since the program wouldn’t end correctly otherwise without the BCR. The program was trying to reference an address that it can’t access.\_\_\_\_\_