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CSE031

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Lab 6: C/MIPS

Q1. How many bugs are there?

There is one major bug; the pointers $a0 and $a1 were not going to the proper source

Q2. How do you fix the bug(s)?

Going through by step function making sure the memory is being properly allocated.

Q3. What is your strategy to finding the bug(s)?

Using a combination of the outputs and any error messages, with the use of steps and breaks; checking that the values are consistent.

Q4. Where is the source pointer stored originally?

la $9, source

Q5. Where is the dest pointer stored originally?

Stored in: la $10, dest

Q6. What instruction is used to load the address of source and dest pointers?

To load the address of source, we use the “la” command.  
 “addu” is used to appropriately allocate offsets onto the pointers.

Q7. Where does the loop to copy values start? (give line # and the first instruction and/ or label of where it is)

Line 41: move $7, $3

Q8. Explain what each line in the loop is trying to do in the following format:

**addu $$8,$8,1:** used to increase k by 1

$8=$8+1

**sll $3,$8,2:** Shifts $3 by 2 bits; multiplying the address by 4

$3=$8\*4

**addu $5,$7,$9**: it is making the address $5 take the value of $9

add $5=&7+$9   
$5=&source [k]

**addu $2,$3,$9** : Takes the value of the next address into $2 with $9

add $2=&3+$9 $2=&source[k+1]

**addu $6,$7,$10** : $6 will take in the dest array address

add $6=&7+$10 $6=&dest[k]

**lw $4,0($2)**: Will make address $4 set to the words at the memory address

$4=source[k+1]

**move $7,$3** : Will move the value at $3 into $7

$7=$3 source[k]=source[k+1]

**lw $3,0($5) :** Will make address $3 set to the words at the memory address

$3=source[k]

**sw $3,0($6)** : Will store the value of $3 in $6

dest[k] ==source[k]

**bne $4,$0,$L6**  : Will break if $4 and $0 are the same; will loop till k+1 = 0 otherwise.

if(source[k+1]!=0)

continue;

else

break;