

Read the code in lab6.asm. Write the stack frame for strcpy using the example on page 2 of lab6.pdf. You do not need to submit this document.

Address content details

notes

strcpy

.....

Y → 0x21F1

<- SP

Stack Pointer

F2 r23

F3 r27

F4 r26

F5 r28

F6 r29

F7 r31

0x21F8 r30

.....

Saved reg.

0x21F9 ret return address when “call strcpy” is executed.

0x21FA ret return address

0x21FB ret return address

.....

In the main, the caller pushes parameters on to the stack: the memory address of the destination string.

0x21FC 0x00 param 11

0x21FD 0x02 param 12

0x21FE 0x5C param 13

0x21FF 0x00 param 14

.....

In the subroutine, the callee pushes those registers onto the stack in order to preserve the values in the registers.

The return address (the address of the next command) is pushed onto the stack automatically

ret return address when “call strcpy” is executed.

ret return address

ret return address

In the main, the caller pushes parameters on to the stack: the memory address of the source string.

.....

0x21FF

strlength

Sp → 0x21F4

F5 r27

F6 r26

F7 r28

F8 r29

F9 r31

FA r30

FB ret

FC ret

FD ret

FE 0x00 pf 10

0x21FF 0x02 pf 11

Design the stack frame for strlength(String str):

Address content details

notes

.....

<- SP

Stack Pointer

.....

In the subroutine, the callee pushes those registers onto the stack in order to preserve the values in the registers.

The return address (the address of the next command) is pushed onto the stack automatically

ret return address when “call strlength” is executed.

ret return address

ret return address

In the main, the caller pushes parameter on to the stack: the memory address of the source string.

.....

0x21FF