

# Quiz 2

CSCI 331: Fall 2021

Your name: \_\_\_\_\_

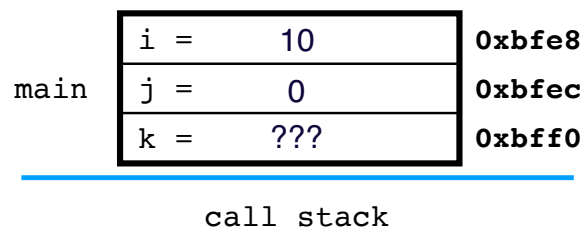
## C Quiz

In this quiz, you will simulate the effect of the following program on program memory.

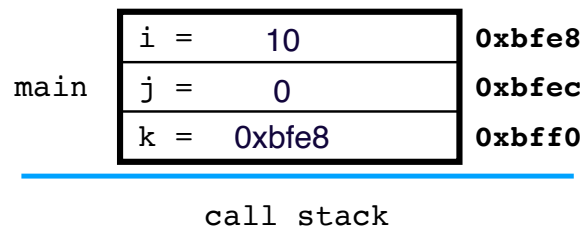
```
1 #include <stdio.h>
2
3 int main() {
4     int i = 10, j = 0, *k;
5     k = &i;
6     *k = 20;
7     k = &j;
8     *k = i;
9     printf("i = %d, \nj = %d, \n*k = %d\n", i, j, *k);
10    return 0;
11 }
```

Fill the diagrams below with their appropriate values. Note that the given addresses are arbitrary.

Q1. What is the state of the stack after line 4 is executed?



Q2. What is the state of the stack after line 5 is executed?



Q3. What is the state of the stack after line 6 is executed?

main	i = 20	0xbfe8
	j = 0	0xbfec
	k = 0xbfe8	0xbff0
<hr/>		
call stack		

Q4. What is the state of the stack after line 7 is executed?

main	i = 20	0xbfe8
	j = 0	0xbfec
	k = 0xbfec	0xbff0
<hr/>		
call stack		

Q5. What is the state of the stack after line 8 is executed?

main	i = 20	0xbfe8
	j = 20	0xbfec
	k = 0xbfec	0xbff0
<hr/>		
call stack		

Q6. What string is printed on the console?

```
i = 20,  
j = 20,  
*k = 20
```

Q7. Does this program contain any static data (like string literals)? If so, write them down.

Yes.

"i = %d,\nj = %d,\n\*k = %d\n"