Activity 1

CSCI 331: Fall 2023

Your name: _____

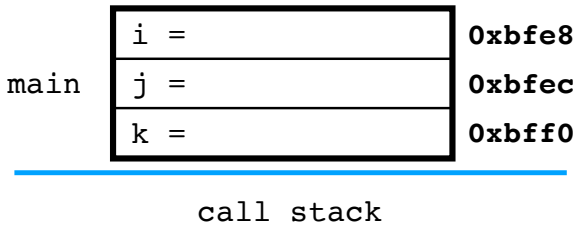
C Activity

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

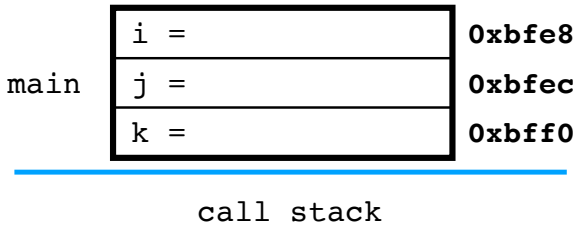
```
1  #include <stdio.h>
2
3  int main() {
4    int i = 10, j = 0, *k;
5    k = &i;
6    *k = 20;
7    k = &j;
8    *k = i;
9    printf("i = %d,\nj = %d,\n*k = %d\n", i, j, *k);
10   return 0;
11 }
```

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

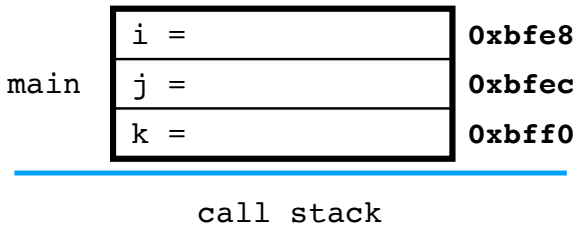
Q1. What is the state of the stack after line 4 is executed?



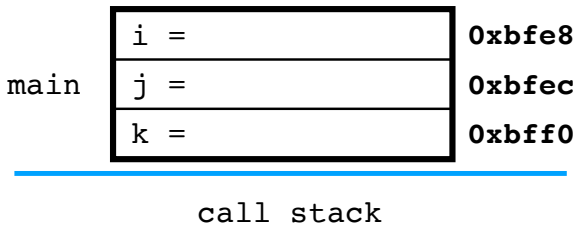
Q2. What is the state of the stack after line 5 is executed?



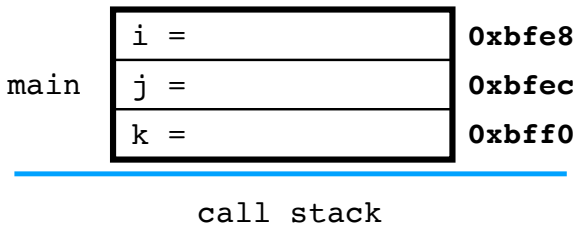
Q3. What is the state of the stack after line 6 is executed?



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



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



Q6. What string is printed on the console?

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