Password: Thekingbug

**Consider the following Program and answer the questions given below:  
#include <stdio.h>  
int func1(int arr[], int size, char ch);  
int func2(int arr[], int size, char ch);  
int main() {  
 int arr[] = {1, 2, 3, 4, 5};  
 int size = 5;  
 char ch = 'A';  
 int result = func1(arr, size, ch);  
 printf("Final result: %d\n", result);  
 return 0;  
}**int func1(int arr[], int size, char ch) {  
 printf("In func1: Array elements are:\n");  
 for (int i = 0; i < size; i++) {  
 printf("%d ", arr[i]);  
 }  
 printf("\nCharacter passed: %c\n", ch);  
 int result = func2(arr, size, ch + 1);  
 return result + 1;  
}  
  
int func2(int arr[], int size, char ch) {  
 int j=0;  
 printf("In func2: Array elements are:\n");  
 for (int i = 0; i < size; i++) {  
 arr[i]= arr[i]+j;  
 printf("%d ", arr[i]);  
 }  
 printf("\nCharacter passed: %c\n", ch);  
 int result = 12;  
 return result + 1;  
}

1. **Find out the register that stores the return value after each function call?**
2. **What is the average frame size of the functions of this program? Find out the total memory occupied by the code of the program.**
3. **List the registers used to store the values passed to each function func1 and func2 and find out the memory location of each if it is stored in stack.**
4. **Mention register(s) that is/are used to store the value of the operands during the addition operation in func2.**
5. **Find out how the string argument is passed at the first printf function call inside func2. Which register is used to send the string to printf? What is the content of the register?**
6. **Can you change the above code to give a buffer overflow error and how can you stop that?**