1. #include <stdio.h>
2. #include <string.h>
3. void sample\_function(char \*input) {
4. char buffer[10];
5. strcpy(buffer, input);
6. }
7. void safe\_function(char \*input) {
8. printf("In safe\_function\n");
9. sample\_function(input);
10. }
11. int main() {
12. char large\_input[100];
13. printf(“Enter the string\n”);
14. scanf(“%s”,large\_input);
15. safe\_function(large\_input);
16. printf("Main function complete.\n");
17. return 0;
18. }

**Consider the above program. Answer the following questions.**

1. **What is the value of lr and sp for the above program after each and every call of the functions?**
2. **There might be an issue in the program [if we change the input], identify the issue by trial and error method. Use appropriate registers and memory locations to show the error.**

**Hint: Check array input value and give a large input**

1. **Use appropriate gdb commands to display a string stored in a memory location.**
2. **Solve the error in the program and add necessary statements in the code. Name the error you have found.**