

THREE STAGE AND OPERATION

PROGRAM:

```
#include <stdio.h>

// Function to perform a three-stage AND operation
int threeStageAndOperation(int a, int b, int c) {
    // Perform first AND operation: A & B
    int stage1 = a & b;

    // Perform second AND operation: (A & B) & C
    int stage2 = stage1 & c;

    return stage2;
}

int main() {
    int a, b, c;

    // Input three integers (we can treat them as bits: 0 or 1)
    printf("Enter first value (0 or 1): ");
    scanf("%d", &a);

    printf("Enter second value (0 or 1): ");
    scanf("%d", &b);

    printf("Enter third value (0 or 1): ");
    scanf("%d", &c);
```

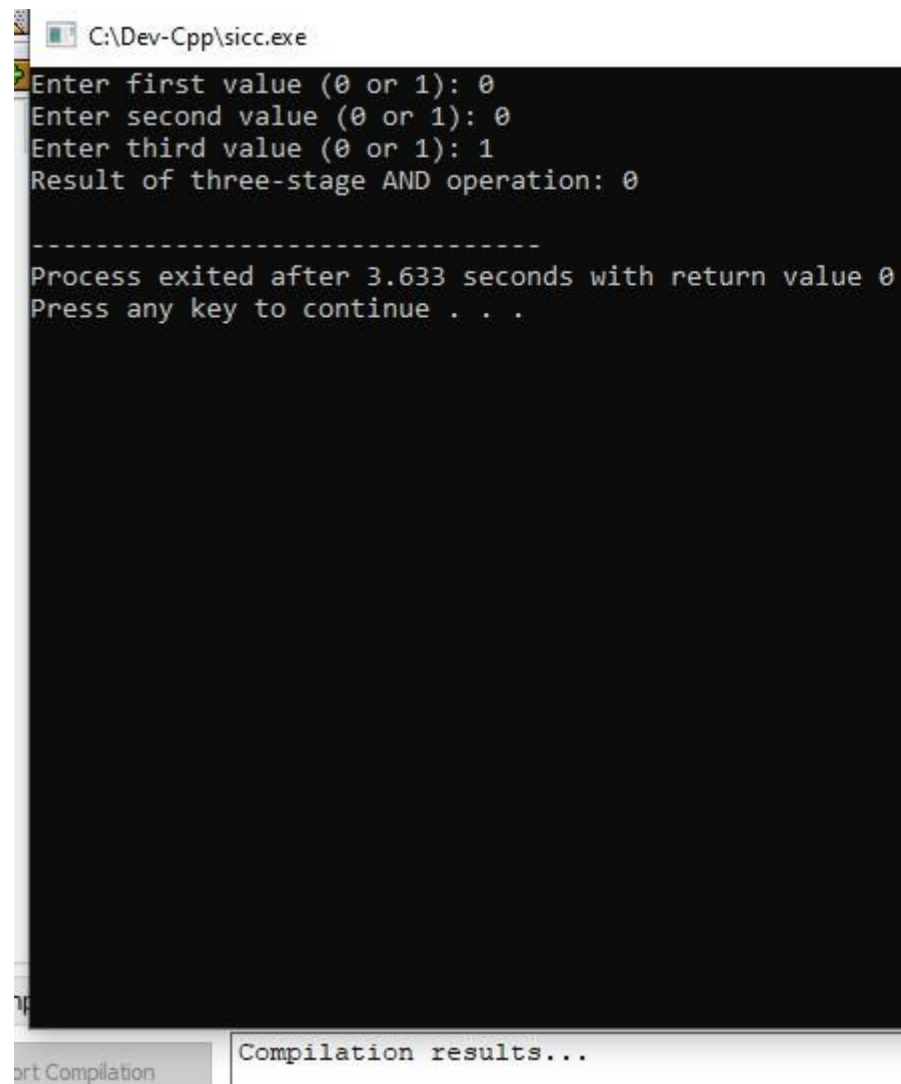
```
// Ensure inputs are either 0 or 1
if((a != 0 && a != 1) || (b != 0 && b != 1) || (c != 0 && c != 1)) {
    printf("Invalid input! Please enter only 0 or 1.\n");
    return 1;
}

// Perform three-stage AND operation
int result = threeStageAndOperation(a, b, c);

// Output the result
printf("Result of three-stage AND operation: %d\n", result);

return 0;
}
```

INPUT & OUTPUT :



```
C:\Dev-Cpp\sicc.exe
Enter first value (0 or 1): 0
Enter second value (0 or 1): 0
Enter third value (0 or 1): 1
Result of three-stage AND operation: 0

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Process exited after 3.633 seconds with return value 0
Press any key to continue . . .

Compilation results...
```

RESULT: Thus the program was executed successfully using DevC++.