KATHMANDU UNIVERSITY

DHULIKHEL, NEPAL

COMP 202: Lab1 Report

SUBMITTED BY

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Output

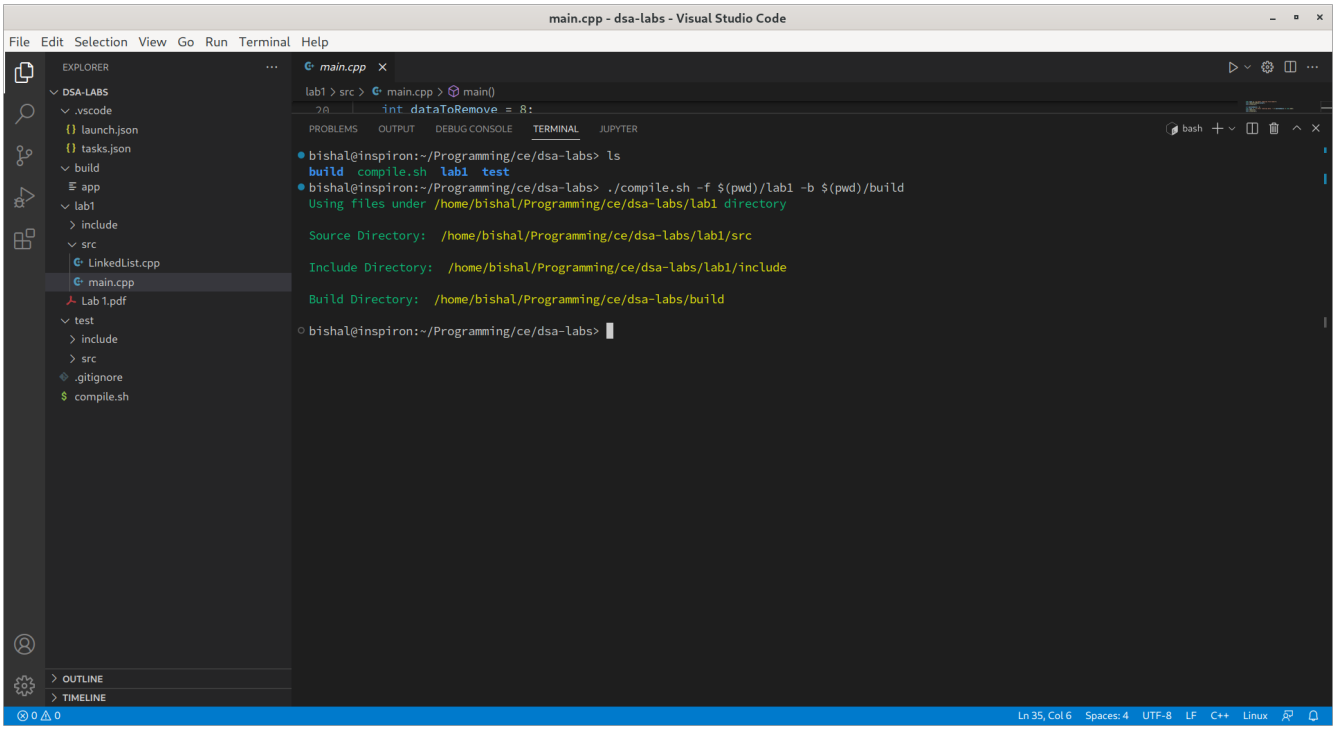

Image 1: Output of the compilation process

Here, compilation is done through by using a shell script. The scripts accepts three arguments, one is the parent directory containing include and src folder which should be followed by -f flag, another is the build directory which should be followed by -b flag and the last one is -r flag which determines if the executable created must be executed or not.

Example usage: *./compile.sh -f lab1 -b build -r*

This will set the parent directory to *./lab1* build folder to *./build* and will run the executable after compilation.

The header files must always be placed inside include directory which itself should be inside of the parent directory provided and same goes for .cpp files which should be inside of src folder whose parent folder must be the parent folder provided in the argument.

The shell script does the same job as the command like

g++ lab1/src/LinkedList.cpp lab1/src/main.cpp -I lab1/include -o build/app

but it makes compilation a lot easier when there is different folders to compile.

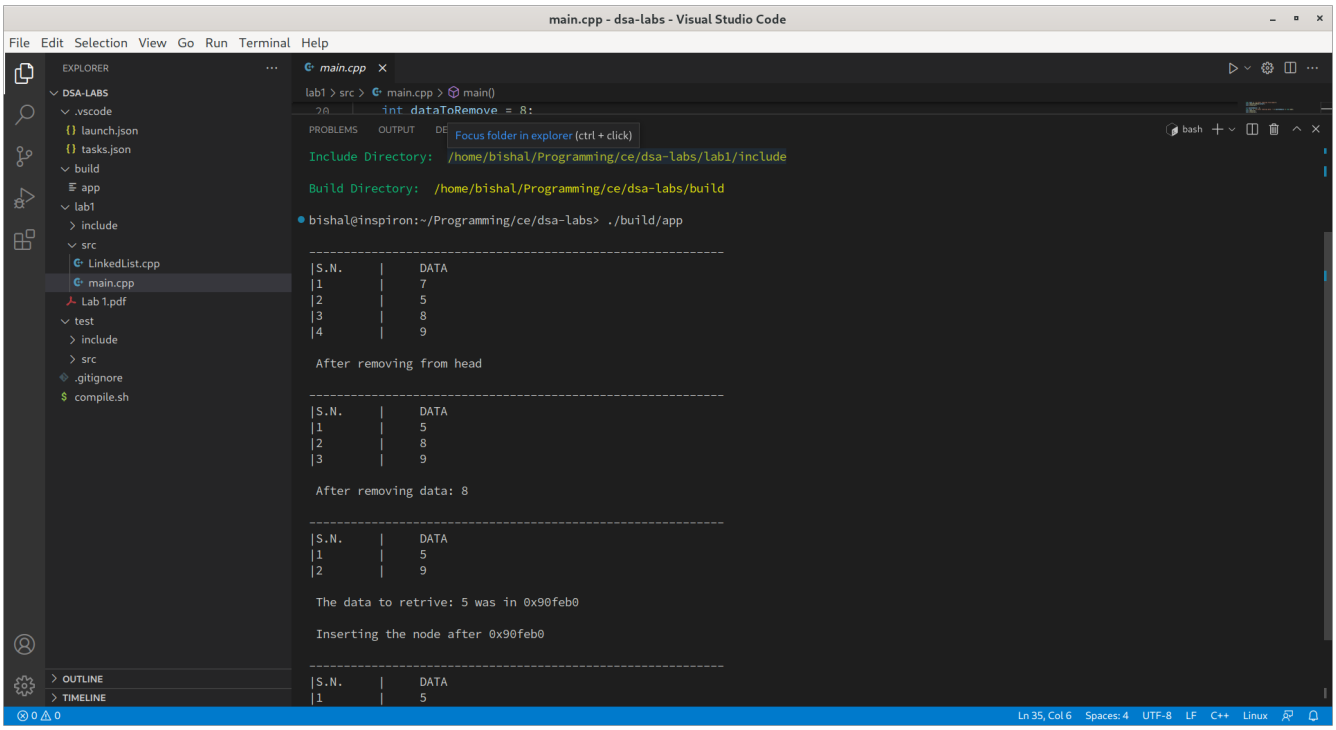

Image 2: Output after executing the app

The main function has the codes to test the linked list created. As shown in the output, it first populates the list by adding values to head and tail. After which traversal is done to show the items inside of the list. The output also shows the removal of data from head, removal of specific data by searching and retrieval of node corresponding to specific data.

Here, traversal is done after each operation to show the updated list.

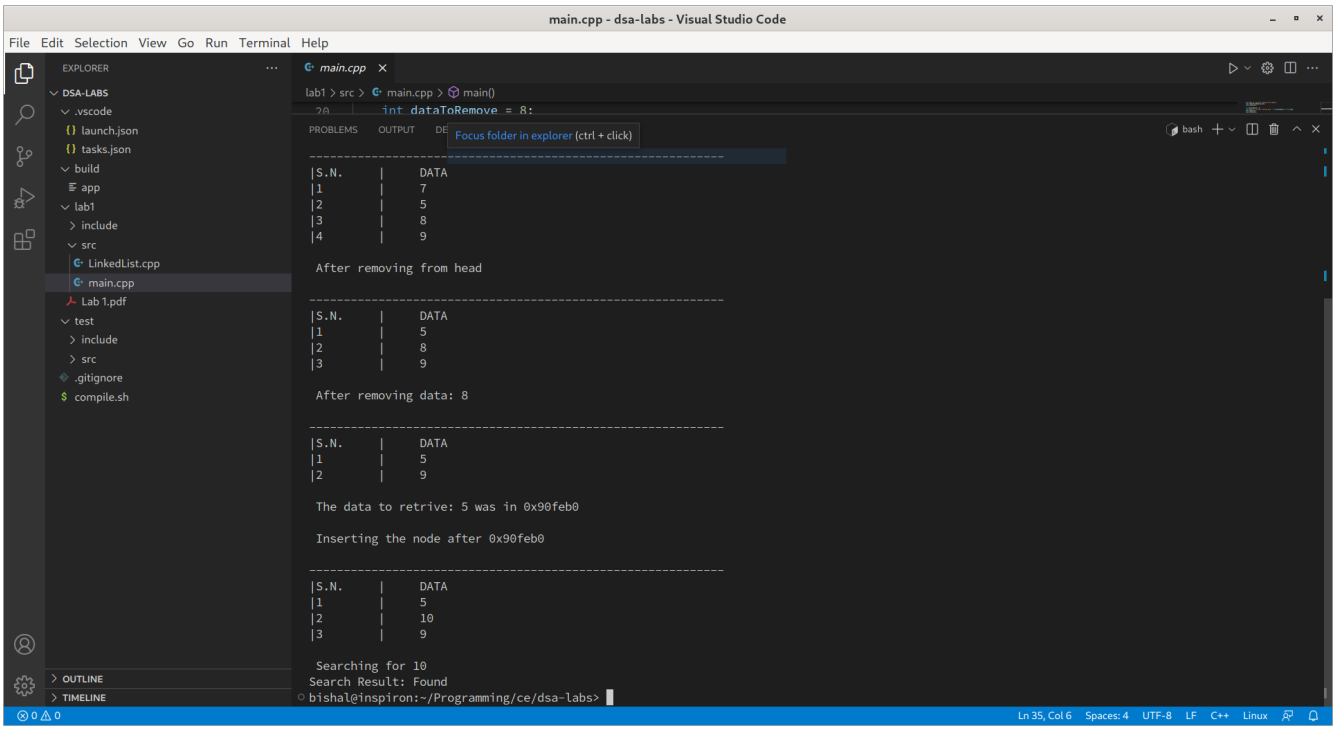

Image 3: Output after executing the app (continued)

To add or insert data after given node, we must find a valid node pointer. To do that, first a node pointer corresponding to specific data is found and that pointer is passed along to another function to do the add operation. This is done to ensure the passed pointer is valid one and points to a valid node of the linked list.

Here, 5 is searched in the list which returns its node pointer (0x99feb0). Now we know that the pointer is valid, we can insert another data after that pointer. Here, 10 is inserted after 5 and traversal is done to verify the working of operation.

Finally, the newly added data is searched and traversal is done to verify the working of both the search and previous add operation.