

Assignment-3

Q1.

Answer :

```
#include <bits/stdc++.h>

using namespace std;

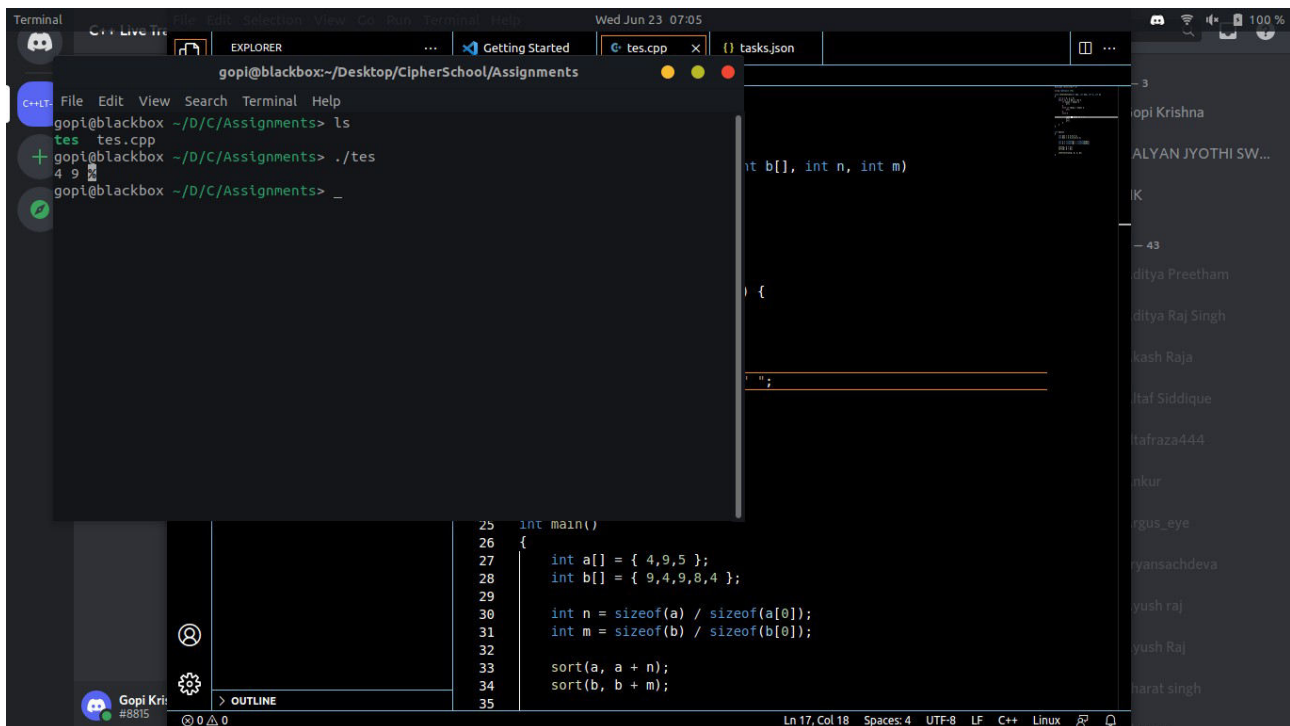
void intersection(int a[], int b[], int n, int m)
{
    int i = 0, j = 0;
    while (i < n && j < m) {
        if (a[i] > b[j]) {
            j++;
        }
        else if (b[j] > a[i]) {
            i++;
        }
        else {
            cout << a[i] << " ";
            i++;
            j++;
        }
    }
}

int main()
{
    int a[] = { 4,9,5 };
    int b[] = { 9,4,9,8,4 };

    int n = sizeof(a) / sizeof(a[0]);
    int m = sizeof(b) / sizeof(b[0]);

    sort(a, a + n);
    sort(b, b + m);

    intersection(a, b, n, m);
}
```



Q2.

Answer :

```
#include <iostream>
#include <vector>
using namespace std;
```

```
struct Node
{
    int data;
    Node* next;
};
```

```
void printList(Node* head)
{
    Node* ptr = head;
    while (ptr)
    {
        cout << ptr->data << " —> ";
        ptr = ptr->next;
    }
}
```

```

    cout << "nullptr" << endl;
}

void push(Node* &headRef, int data)
{
    Node* newNode = new Node();
    newNode->data = data;
    newNode->next = headRef;

    headRef = newNode;
}

void reverse(Node* &headRef)
{
    Node* first;
    Node* rest;

    if (headRef == nullptr) {
        return;
    }

    first = headRef;
    rest = first->next;

    if (rest == nullptr) {
        return;
    }

    reverse(rest);
    first->next->next = first;
    first->next = nullptr;
    headRef = rest;
}

int main()
{
    vector<int> keys = { 1, 2, 3, 4 };

    Node* head = nullptr;
    for (int i = keys.size() - 1; i >= 0; i--) {
        push(head, keys[i]);
    }

    reverse(head);
    printList(head);

    return 0;
}

```

The screenshot shows the Visual Studio Code interface. The terminal window at the top left displays the following commands and output:

```
gopi@blackbox: ~/Desktop/CipherSchool/Assignments
gopi@blackbox: ~/D/C/Assignments> ls
tes  tes.cpp
gopi@blackbox: ~/D/C/Assignments> ./tes
4 -> 3 -> 2 -> 1 -> nullptr
gopi@blackbox: ~/D/C/Assignments> _
```

The editor window shows the file `tes.cpp` with the following code:

```
59     for (int i = keys.size() - 1; i >= 0; i--) {
60         push(head, keys[i]);
61     }
62
63     reverse(head);
64     printList(head);
65
66     return 0;
67 }
68
```

The status bar at the bottom indicates the current position is Line 68, Column 1, with 4 spaces, UTF-8 encoding, LF line endings, C++ language, and Linux platform.

MCQ ;

1) ofstream

2) ifstream

3) fstream

4) If the file is opened for output operations and it already existed, its previous content is deleted and replaced by the new one.

5) myfile.open ("example.bin", ios::out);

6) myfile.close();