

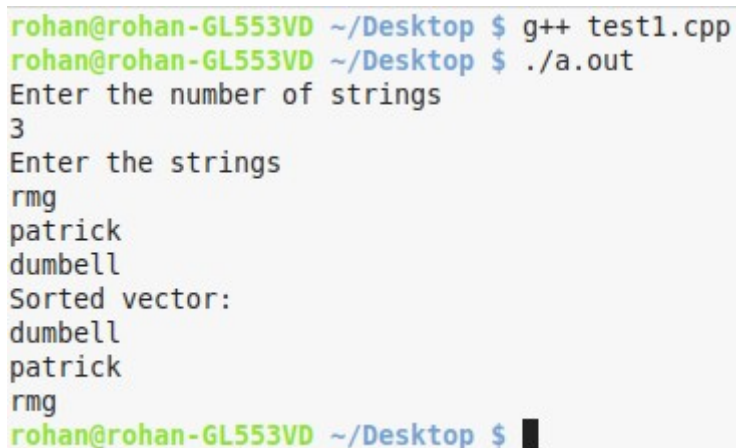
Assignment 4

Question 1: Sort two strings s1 and s2 such that $s1 + s2 > s2 + s1$

Code:

```
#include <iostream>
#include <vector>
#include <string>
#include <algorithm>
int main()
{
    std::cout<<"Enter the number of strings\n";
    int n; std::cin>>n;
    std::vector<std::string> arr(n);
    std::cout<<"Enter the strings\n";
    for(auto& i : arr)
        std::cin>>i;
    std::sort(arr.begin(), arr.end(), [](const std::string &x, const
std::string &y){return (x+y)<(y+x);});
    std::cout<<"Sorted vector:\n";
    for(const auto& i : arr)
        std::cout<<i<<'\\n';
}
```

Output:



```
rohan@rohan-GL553VD ~/Desktop $ g++ test1.cpp
rohan@rohan-GL553VD ~/Desktop $ ./a.out
Enter the number of strings
3
Enter the strings
rmg
patrick
dumbell
Sorted vector:
dumbell
patrick
rmg
rohan@rohan-GL553VD ~/Desktop $ █
```

Question 2: Find the number of palindromes in a range using only the main function

Code:

```
#include <iostream>
int main()
{
    auto check = [](const int &a, const int &b){
        int count = 0;
        for(int i = a; i <= b; i++)
        {
            int cpy = i;
            int rev = 0, d = 0;
            while(cpy > 0)
            {
                d = cpy % 10;
                rev = rev * 10 + d;
                cpy /= 10;
            }
            if(rev == i)
                count++;
        }
        return count;
    };
    std::cout<<check(10, 20)<<'\n'<<check(50, 100)<<'\n';
}
```

Output:



```
rohan@rohan-GL553VD ~/Desktop $ g++ test2.cpp -std=c++11
rohan@rohan-GL553VD ~/Desktop $ ./a.out
1
5
rohan@rohan-GL553VD ~/Desktop $
```

Question 3: Write a program to print the frequency of each character of a string in alphabetical order.

Code:

```
#include <iostream>
#include <string>
#include <map>
int main()
```

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```
{
    std::string str; std::cin>>str;
    std::map<char, int> freq;
    for(const auto& i : str)
        freq[i]++;
    for(const auto& i : freq)
        std::cout<<i.first<<"\t\t"<<i.second<<"\n";
}
```

Output:

```
rohan@rohan-GL553VD ~/Desktop $ g++ test3.cpp -std=c++11
rohan@rohan-GL553VD ~/Desktop $ ./a.out
subaruimprenzawrxsti#
#           1
a           2
b           1
e           1
i           2
m           1
p           1
r           3
s           2
t           1
u           2
w           1
x           1
z           1
rohan@rohan-GL553VD ~/Desktop $
```