

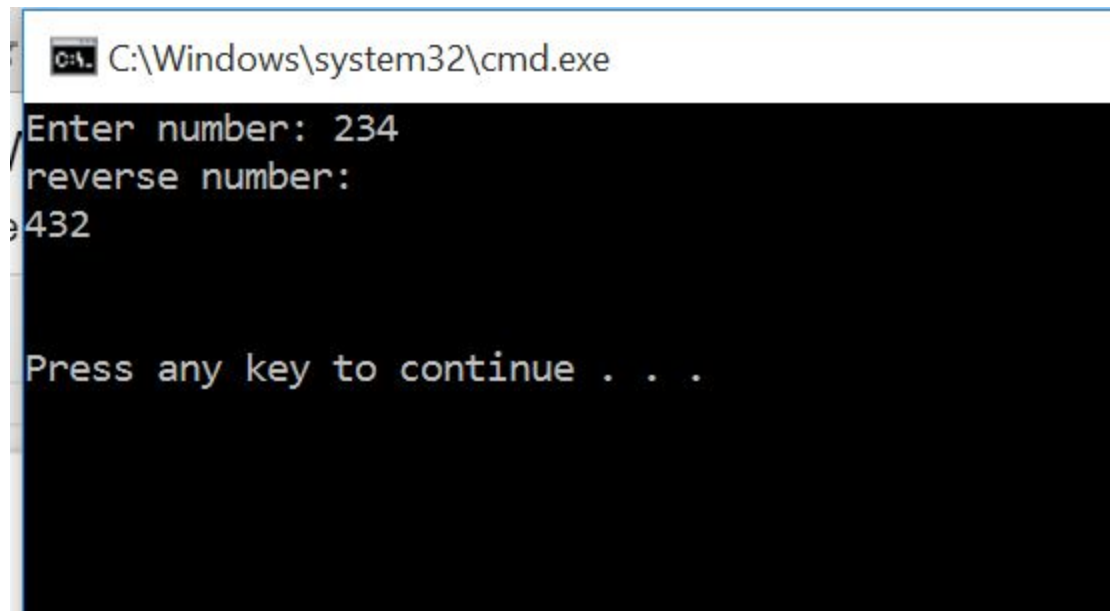
Alanna Hupe  
programming assignment 8

Q1:

```
#include <iostream>
using namespace std;
void reverse(int number);
int main()
{
    int num;
    cout << "Enter number: ";
    cin >> num;

    cout << "reverse number: \n";
    reverse(num);
}
void reverse(int number){

    if (number == 0)
        return;
    else{
        cout << number % 10;
        reverse(number/10);
        cout << "\n";
    }
}
```

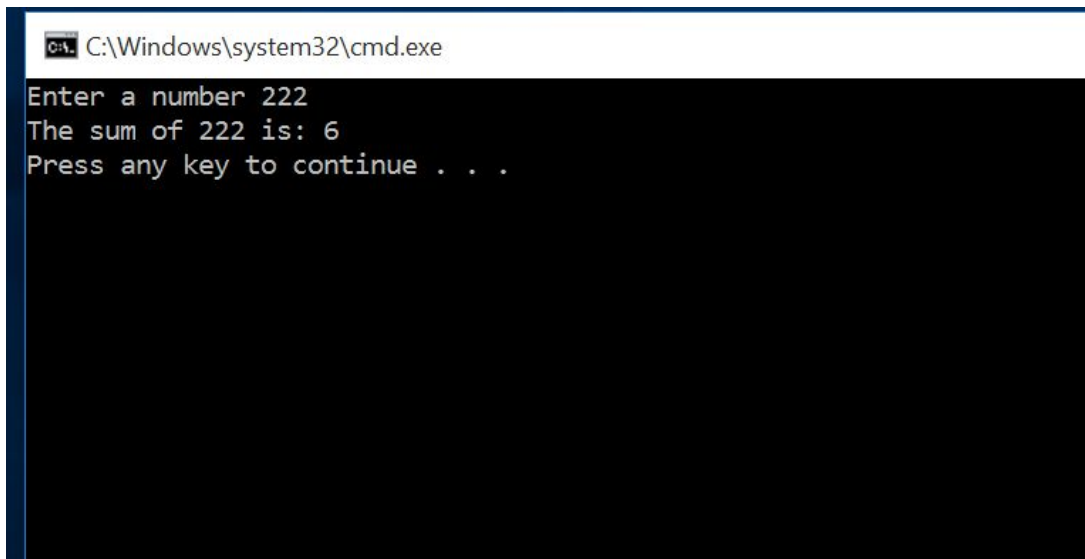


The screenshot shows a Windows command prompt window with the title bar "C:\Windows\system32\cmd.exe". The prompt displays the output of the C++ program. It starts with "Enter number: 234", followed by "reverse number:" on a new line. On the next line, the number "432" is printed, which is the reverse of 234. Finally, the prompt shows "Press any key to continue . . .", indicating the program has finished execution and is waiting for a key press to close the window.

Q2:

```
#include <iostream>
using namespace std;
int num = 1, total = 0;
int sum(int num);
int main()
{
    int num, total;
    cout << "Enter a number ";
    cin >> num;
    total = sum(num);
    cout << "The sum of " << num << " is: " << total << "\n";

    return 0;
}
int sum(int num)
{
    if (num == 0)
    {
        return total;
    }
    else
    {
        total = total + (num % 10);
        num = (num / 10);
        return sum(num);
    }
}
```



The screenshot shows a Windows command prompt window with the title bar "C:\Windows\system32\cmd.exe". The window has a black background with white text. The text displayed is as follows:

```
Enter a number 222
The sum of 222 is: 6
Press any key to continue . . .
```

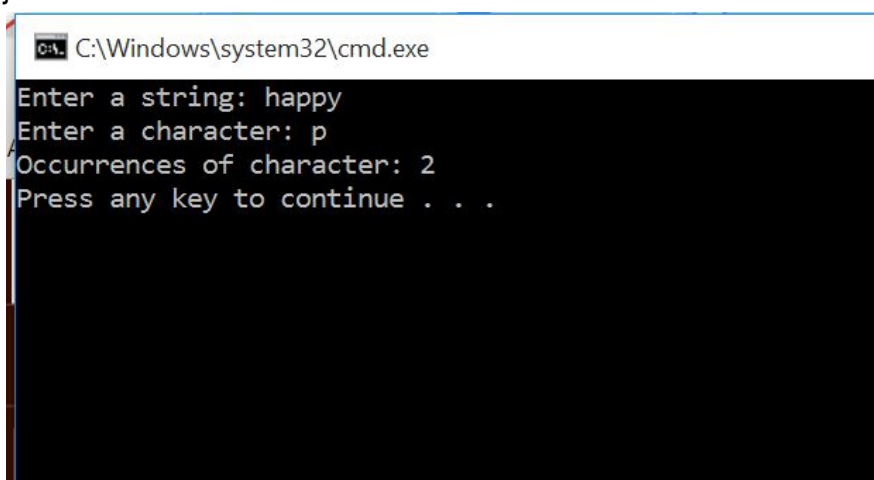
Q3:

```
#include <iostream>
#include <string>
using namespace std;
int main()
{
    int count(string , char);

    string strng1;
    char c;
    cout << "Enter a string: ";
    cin >> strng1;
    cout << "Enter a character: ";
    cin >> c;
    cout << "Occurrences of character: " << count(strng1, c) << endl;
    return 0;
}

int position = 0;
int count(string strng1, char c)
{
    position = strng1.find(c, position);

    if (position > strng1.length())
    {
        return 0;
    }
    else
    {
        int patterncount = 0;
        patterncount++;
        position++;
        return patterncount + count(strng1, c);
    }
}
```



The screenshot shows a Windows command prompt window with the title bar "C:\Windows\system32\cmd.exe". The window has a black background with white text. The text displayed is as follows:

```
Enter a string: happy
Enter a character: p
Occurrences of character: 2
Press any key to continue . . .
```