C++ - LAB-2: **Basic Input/Output and Statements and flow control**

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Q-6: To use cin and cout

Ans: Source Code

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

int main()
{
    int num;
    cout << "Enter a number:\n";

    cin >> num;

    cout << "You entered:" << num;
    return 0;
}
```

Output:

Enter a number:34

You entered:34

Q-7: To use cin, strings and stringstream

Ans: Source Code:

```
#include <bits/stdc++.h>
using namespace std;
int count_words(string str)
{
    stringstream sample(str);
    string word;
    int count = 0;
    while(sample >> word)
    {
        count++;
    }
    return count;
}
int main()
{
    string sample = "my name is vivaan"
                    "I study in smit";


    cout << "Words in the string: " << count_words(sample);

}
```

Output:

Words in the string: 7

Q-8-a: Read a list of five numbers and counts the number of threes and sevens in the data.

Ans: Source Code

```
#include <iostream>
using namespace std;
int main()
{
    int my_arr[5], i, count=0, rem, count1=0;

    cout << "Enter 5 numbers:\n";

    for(i=0; i<5; i++)
    {
        cin >> my_arr[i];
    }
```

```
    for(i=0; i<5; i++)
    {
        while(my_arr[i] != 0)
        {
            rem=my_arr[i]%10;

            if(rem == 3)
                count++;
            if(rem == 7)
                count1++;
            my_arr[i] = my_arr[i]/10;
        }

 cout << "Number:" << i+1 << ":: 3 = " << count << ", 7 = " << count1 << "\n";

        count = 0;
        count1 = 0;
    }
    return 0;
}
```

Output:

Enter 5 numbers:

123

456

789

333

777

Number:1:: 3 = 1, 7 = 0

Number:2:: 3 = 0, 7 = 0

Number:3:: 3 = 0, 7 = 1

Number:4:: 3 = 3, 7 = 0

Number:5:: 3 = 0, 7 = 3

Q-8-b: Write a program to print out the multiplication table.

Ans: Source Code:

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

int main()
{
    int n, i;
    cout << "Enter a number: ";
    cin >> n;

    for(i=1; i<=10; i++)
    {
        cout << n << " X " << i << " = " << n*i << "\n";
    }
    return 0;
}
```

Output:

Enter a number: 12

12 X 1 = 12

12 X 2 = 24

12 X 3 = 36

12 X 4 = 48

12 X 5 = 60

12 X 6 = 72

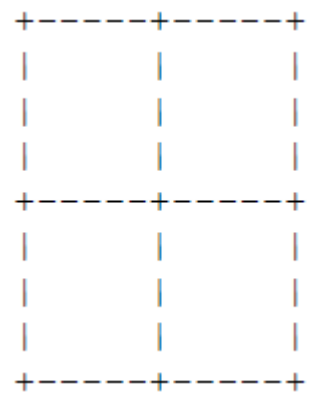
12 X 7 = 84

12 X 8 = 96

12 X 9 = 108

12 X 10 = 120

Q-8-c: Print a checkerboard (8-by-8 grid). Each square should be 5-by-3 characters wide. A 2-by-2 example follows:



Ans: Source Code:

```
#include <bits/stdc++.h>
int main()
{
         char c[33][49];
         int i,j,k;
         for(i=0;i<33;i++)
         for(j=0;j<49;j++)
         c[i][j]=32;
         int temp;
         for(k=1;k<32;k++)
         {
                for(j=0;j<49;j=j+6)
               {
                     c[k][j]='|';
               }
         }


         for(i=0;i<33;i=i+4)
        {
                 j=0; c[i][j]='+';
                 for(k=0;k<8;k++)
                {
                        temp=j;
```

```
                    for(j=(temp+1);j<=(temp+5);j++)
                   {
                    c[i][j]='-';
                   }
                   c[i][j]='+';
            }
     }
     for(i=0;i<33;i++){
    for(j=0;j<49;j++)
    std::cout << c[i][j];
    std::cout << "\n";
   }
    return 0;
   }
```

Output: