peter_ruszel_260_assign3.cpp

```cpp

// NOTE: The ONLY files that should be #included for this assignment are iostream, vector, and string
// No other files should be #included


using namespace std;

string addbin(string, string);
string addhex(string, string);
string padbin(string, int);
int hextoint(int);

int main()
{
  cout<<"binary 1101 + 1000 = "<<addbin("1101", "1000")<<endl;   //you should get 10101
  cout<<"binary 11000 + 1011 = "<<addbin("11000", "1011")<<endl; //you should get 100011
  cout<<"binary 11111111 + 1 = "<<addbin("11111111", "1")<<endl; //you should get 100000000
  cout<<"binary 101010 + 10 = "<<addbin("101010", "10")<<endl<<endl; //you should get 101100

  cout<<"hexadecimal A4 + A5 = "<<addhex("A4", "A5")<<endl;  //you should get 149
  cout<<"hexadecimal 2B + C = "<<addhex("2B",  "C")<<endl;    //you should get 37
  cout<<"hexadecimal FABC + 789 = "<<addhex("FABC", "789")<<endl;  //you should get 10245
  cout<<"hexadecimal FFFFFF + FF = "<<addhex("FFFFFF", "FF")<<endl<<endl; //you should get 10000FE

  // system("PAUSE");
  return 0;

}

```

```
binary 1101 + 1000 = 10101
binary 11000 + 1011 = 100011
binary 11111111 + 1 = 100000000
binary 101010 + 10 = 101100

hexadecimal A4 + A5 = 149
hexadecimal 2B + C = 37
hexadecimal FABC + 789 = 10245
hexadecimal FFFFFF + FF = 10000FE

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```

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```
22    // My tests
23    cout<<"binary 100000 + 011111 = "<<addbin("100000", "011111")<<endl;
24    cout<<"binary 01010 + 10101 = "<<addbin("01010", "10101")<<endl;
25    cout<<"binary 1111 + 1111 = "<<addbin("1111", "1111")<<endl;
26    cout<<"binary 0000001 + 110 = "<<addbin("0000001", "110")<<endl;
27    cout<<"binary 1 + 1 = "<<addbin("1", "1")<<endl;
28    cout<<"binary 0 + 0 = "<<addbin("0", "0")<<endl;
29    cout<<"binary 1 + 0 = "<<addbin("1", "0")<<endl;
30    cout<<"binary 00000 + 00 = "<<addbin("00000", "00")<<endl;
31    cout<<"binary 11111 + 10000 = "<<addbin("11111", "10000")<<endl;
32    cout<<"binary 1100011 + 0111110 = "<<addbin("1100011", "0111110")<<endl<<endl;
33
34    cout<<"hexadecimal A4 + A5 = "<<addhex("A4", "A5")<<endl;
35    cout<<"hexadecimal 2B + C = "<<addhex("2B",  "C")<<endl;
36    cout<<"hexadecimal FABC + 789 = "<<addhex("FABC", "789")<<endl;
37    cout<<"hexadecimal FFFFFF + FF = "<<addhex("FFFFFF", "FF")<<endl;
38    cout<<"hexadecimal 1 + 1 = "<<addhex("1", "1")<<endl;
39    cout<<"hexadecimal A + F = "<<addhex("A", "F")<<endl;
40    cout<<"hexadecimal 9 + 1 = "<<addhex("9", "1")<<endl;
41    cout<<"hexadecimal CDEF + 0 = CDEF"<<addhex("CDEF", "0")<<endl;
42    cout<<"hexadecimal 1234 + ABCD = "<<addhex("1234", "ABCD")<<endl;
43    cout<<"hexadecimal 1A2B3C + 11111 = "<<addhex("1A2B3C", "11111")<<endl<<endl;
```

```
binary 100000 + 011111 = 111111
binary 01010 + 10101 = 11111
binary 1111 + 1111 = 11110
binary 0000001 + 110 = 111
binary 1 + 1 = 10
binary 0 + 0 = 0
binary 1 + 0 = 1
binary 00000 + 00 = 00
binary 11111 + 10000 = 101111
binary 1100011 + 0111110 = 10100001

hexadecimal A4 + A5 = 149
hexadecimal 2B + C = 37
hexadecimal FABC + 789 = 10245
hexadecimal FFFFFF + FF = 10000FE
hexadecimal 1 + 1 = 2
hexadecimal A + F = 19
hexadecimal 9 + 1 = A
hexadecimal CDEF + 0 = CDEFCDEF
hexadecimal 1234 + ABCD = BE01
hexadecimal 1A2B3C + 11111 = 1B3C4D
```