```
/*
 Project1
 Robert Florence
 CS 122
 Assembly
 Prof. Ferguson
 Practice problems
 2.6
 */

#include <iostream>
using namespace std;

int main () {
    int exam1;
    int base;
    int divisor;
    int remainder;
    cout << "Enter 2 numbers (1-100) and a base 0-9: ";

    cin >> exam1 >> base;

    while (exam1>0) {
        cout << "\n";

        remainder = (exam1%base);
        cout << remainder << endl;

        divisor = (exam1/base);
        exam1 = divisor;

    }
    return 0;
}
```

```
/*
 Project1
 Robert Florence
 CS 122
 Assembly
```

```
 Prof. Ferguson
 Practice problems
 2.10
 */

#include <iostream>
#include <cmath>
using namespace std;
int main(int argc, const char * argv[])
{

    const int base2 = 2, base3 = 3, base8 = 8, base10 = 10, base16 =
16;

    int num, checker = 0, newnum;
    const int power = 4;

    do {

        cout << "Enter a number base (2, 3, 8, 10 or 16): ";

        cin >> num;

        if (num == base2) {

            cout << "Base 2 - Binary - (0 & 1)\nFirst Four Powers
(0-3): ";
            checker = 0;
            for (int i=0; i<power; i++) {

                newnum = pow(base2,i);
                cout << newnum << "  ";


            }

        } else if (num == base3) {

            cout << "Base 3 - Trinary - (0 - 2)\nFirst Four Powers
(0-3): ";
            checker = 0;
            for (int i=0; i<power; i++) {

                newnum = pow(base3,i);
                cout << newnum << "  ";


            }

        } else if (num == base8) {
```

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            cout << "Base 8 - Octal - (0 - 7)\nFirst Four Powers
(0-3): ";
            checker = 0;
            for (int i=0; i<power; i++) {

                newnum = pow(base8,i);
                cout << newnum << "  ";


            }


        } else if (num == base10) {

            cout << "Base 10 - Decimal - (0 - 9)\nFirst Four Powers
(0-3): ";
            checker = 0;
            for (int i=0; i<power; i++) {

                newnum = pow(base10,i);
                cout << newnum << "  ";


            }

        } else if (num == base16){

            cout << "Base 16 - Hexidecimal - (0 - F)\nFirst Four
Powers (0-3): ";
            checker = 0;
            for (int i=0; i<power; i++) {

                newnum = pow(base16,i);
                cout << newnum << "  ";


            }

        } else {

            cout << "Incorrect input, Try Again...\n";
            checker = -1;
        }

    } while (checker == -1);


    return 0;
}
```

```
/*
 Project1
 Robert Florence
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 2.12
 */

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

int main () {
    int guess;
    string hex;
    cout << "Enter a number 0 - 15: ";
    cin >> guess;
    cout << "\n";
    if (guess >= 0 && guess <= 15) {
        switch (guess) {
            case 0: hex = "0"; break;
            case 1: hex = "1"; break;
            case 2: hex = "2"; break;
            case 3: hex = "3"; break;
            case 4: hex = "4"; break;
            case 5: hex = "5"; break;
            case 6: hex = "6"; break;
            case 7: hex = "7"; break;
            case 8: hex = "8"; break;
            case 9: hex = "9"; break;
            case 10: hex = "A"; break;
            case 11: hex = "B"; break;
            case 12: hex = "C"; break;
            case 13: hex = "D"; break;
            case 14: hex = "E"; break;
```

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            case 15: hex = "F"; break;

        }
        cout << "your decimal: " << guess << " in Hexidecimal is: "<<
hex <<"\n";
    } else {
        cout << "Wrong Input, Try Again!" << endl;

    }
    return 0;
}
```

```
/*
 Project1
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 2.13
 */

#include <iostream>
using namespace std;

char ltr;
int power2 = 8;
int result = 0;

int main () {

    cout << "Enter Four 1's and 0's followed by a '*': " << endl;
    cin >> ltr;
    while (ltr != '*') {
        if (ltr == '1') {
            result = result+power2;
        }

        power2= (power2/2);
        cin >> ltr;
```

```
    }

    cout << "The Binary you entered, is " <<result << " in decimal
(base 10)" <<endl;

    return 0;
}
```