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// Attached: HW\_5

// ========================

// Program: HW\_5.ccp

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// Class: CS 1B

// ========================

#include<iostream>

using namespace std;

struct binary{int digit; binary\* next;};

void decToBinary(int,binary\*&head);

int main()

{

binary\* head = NULL;

int value;

cout << "Enter a non-negative integer value: ";

cin >> value;

cout << "Decimal " << value << " = ";

if (value >= 0)

{

decToBinary(value,head);

while (head != NULL)

{

cout << head->digit;

head = head->next;

}

cout << " binary.\n";

}

else

cout << "Invalid Entry\n";

system("pause");

return 0;

}

void decToBinary(int value, binary\*& head)

{

binary\* temp = new binary;

temp->digit = int(value % 2);

temp->next = head;

head = temp;

value = value / 2;

if (value > 0)

decToBinary(value,head);

}

// ============== OUTPUT ================

/\*

Enter a non-negative integer value: 37

Decimal 37 = 100101 binary.

Press any key to continue . . .

// ======================================

Enter a non-negative integer value: 0

Decimal 0 = 0 binary.

Press any key to continue . . .

// ======================================

Enter a non-negative integer value: -1

Decimal -1 = Invalid Entry

Press any key to continue . . .

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// ======================================