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#include <stdio.h>

/*
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	Assignment: Homework 5
	Date: 2/9/2025
*/

// input 2 ints, outputs or operation from entered values
int orOp(int val1, int val2)
{
	return val1 | val2;
}

// input 2 ints, outputs xor operation from entered values
int xorOp(int val1, int val2)
{
	return val1 ^ val2;
}

// input 2 ints, outputs and operation from entered values
int andOp(int val1, int val2)
{
	return val1 & val2;
}

// input 1 int, outputs 2's compliment from entered value
int comp2Op(int val1)
{
	return 1 + ~(val1);
}

int main()
{
	// defining vars

	int num1;
	int num2;
	int result;
	int result2 = 0;
	int opType;
	int loop = 2;

	// program loop

	while((loop == 1) || (loop == 2))
	{
		result2 = 0; // ensures result2 from previous iteration is not printed

		// if statement ensures the user will not be prompted to enter new
values if they choose to use old values

		if(loop !=1)
		{
			printf("Greetings, please enter two numbers: \n");
			scanf("%d", &num1);
			scanf("%d", &num2);
```

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                if((num1 % 1 != 0) || (num2 % 1 != 0))
                {
                        // error check

                        printf("Error, please enter integers. \n");
                        continue;
                }
        }

        // prompts user to determine bit operation type

        printf("Choose the operation you would like to perform by entering the
following values: \n1 = or \n2 = xor \n3 = and \n4 = 2's compliment\n");
        scanf("%d", &opType);

        switch(opType)
        {
                case 1:
                        result = orOp(num1, num2);
                        break;
                case 2:
                        result = xorOp(num1, num2);
                        break;
                case 3:
                        result = andOp(num1, num2);
                        break;
                case 4:
                        result = comp2Op(num1);
                        result2 = comp2Op(num2);
                        break;
                default:
                        // error check

                        printf("Error, please enter a valid operation type. \n");
                        continue;
        }

        printf("Result(s): %d", result);

        if(result2 != 0)
        {
                printf(", %d", result2);
        }
        printf("\n");

        printf("Enter 1 to perform a different opperation, 2 to enter new
values, and 0 to quit: \n");
        scanf("%d", &loop);
    }

    return 0;
}
```