Keaton Brabaw ELEC 213

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#include <stdio.h>

int main() {
    // Task 1: Print "I love C Programming"
    printf("I love C Programming\n");
    // Task 2: Print integer, float, character, and double variables
    int i = 10;
    float f = 5.5;
    char c = 'A';
    double d = 3.14159;
    printf("Integer: %d\n", i);
    printf("Float: %.2f\n", f);
    printf("Character: %c\n", c);
    printf("Double: %.5f\n", d);
    // Task 3: Print mathematical operations (with a=8, b=5)
    int a = 8, b = 5;
    int sum = a + b;
    int diff = a - b;
    int prod = a * b;
    int quo = a / b;
    int rem = a % b;
    int pre_inc = ++a;
    int pre_dec = --a;
    printf("a+b = %d\n", sum);
    printf("a-b = %d\n", diff);
    printf("a*b = %d\n", prod);
    printf("a/b = %d\n", quo);
    printf("remainder = %d\n", rem);
    printf("++a = %d\n", pre_inc);
    printf("--a = %d\n", pre_dec);
    // Task 4: Print relational operations (with a=4, b=4, c=8)
    a = 4; b = 4; c = 8;

    printf("%d == %d is %d\n", a, b, a == b);
    printf("%d == %d is %d\n", a, c, a == c);
```

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    printf("%d > %d is %d\n", a, b, a > b);
    printf("%d > %d is %d\n", a, c, a > c);
    printf("%d < %d is %d\n", a, b, a < b);
    printf("%d < %d is %d\n", a, c, a < c);
    printf("%d != %d is %d\n", a, b, a != b);
    printf("%d != %d is %d\n", a, c, a != c);
    printf("%d >= %d is %d\n", a, b, a >= b);
    printf("%d >= %d is %d\n", a, c, a >= c);
    printf("%d <= %d is %d\n", a, b, a <= b);
    printf("%d <= %d is %d\n", a, c, a <= c);

    // Task 5: Swap two integer numbers (with a=6, b=18)
    int x = 6, y = 18;
    int temp;

    // Print original values
    printf("Before swapping: x = %d, y = %d\n", x, y);

    // Swap using a temporary variable
    temp = x;
    x = y;
    y = temp;

    // Print swapped values
    printf("After swapping: x = %d, y = %d\n", x, y);

    return 0;
}
```

OUTPUT:

```
I love C Programming
Integer: 10
Float: 5.50
Character: A
Double: 3.14159
a+b = 13
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```
a-b = 3
a*b = 40
a/b = 1
remainder = 3
++a = 9
--a = 8
4 == 4 is 1
4 == 8 is 0
4 > 4 is 0
4 > 8 is 0
4 < 4 is 0
4 < 8 is 1
4 != 4 is 0
4 != 8 is 1
4 >= 4 is 1
4 >= 8 is 0
4 <= 4 is 1
4 <= 8 is 1
Before swapping: x = 6, y = 18
After swapping: x = 18, y = 6


=== Code Execution Successful ===
```