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// Uses all the math functions and display the valid results
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#include <stdio.h>
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```
#include <math.h>
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int main() {
    int choice;
    double num, base, exponent, result;

    // Take all inputs first
    printf("Enter a number (used for sqrt, cbrt, floor, ceil): ");
    scanf("%lf", &num);

    printf("Enter base (for power): ");
    scanf("%lf", &base);

    printf("Enter exponent (for power): ");
    scanf("%lf", &exponent);

    // Display menu
    printf("\nChoose operation:\n");
    printf("1. Square Root (sqrt)\n");
    printf("2. Cube Root (cbrt)\n");
    printf("3. Floor\n");
    printf("4. Ceil\n");
    printf("5. Power (base ^ exponent)\n");

    printf("\nEnter choice (1-5): ");
    scanf("%d", &choice);

    switch(choice) {
        case 1:
            if(num < 0)
                printf("Invalid operation: Square root of negative number.\n");
            else {
                result = sqrt(num);
                printf("Square Root: %.2lf\n", result);
            }
            break;

        case 2:
            result = cbrt(num);
            printf("Cube Root: %.2lf\n", result);
            break;

        case 3:
            result = floor(num);
            printf("Floor: %.2lf\n", result);
            break;

        case 4:
            result = ceil(num);
            printf("Ceil: %.2lf\n", result);
            break;

        case 5:
            result = pow(base, exponent);
            printf("Power: %.2lf\n", result);
            break;

        default:
            printf("Invalid choice.\n");
    }

    return 0;
}
```