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Assignment 1

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Problem 1:

Create a program that uses the escape sequence \ " to print your favorite quote.

Output:

```
Ace:Assignment 1 A$ gcc problem_01.c -o 1
Ace:Assignment 1 A$ ./1
"You're killin me Smalls!"
Ace:Assignment 1 A$
```

Problem 2:

Create a program that uses escape sequence \\ to print the following directory structure: c:\cygwin\home\administrator.

Output:

```
Ace:Assignment 1 A$ gcc problem_02.c -o 2
Ace:Assignment 1 A$ ./2
c:\cygwin\home\administrator
Ace:Assignment 1 A$
```

Problem 3:

Write a program that prints a diamond, as shown here:
```
    *
   * *
  *   *
 *     *
  *   *
   * *
    *
```

Output:

```
Ace: Assignment 1 A$ gcc problem_03.c -o 3
Ace: Assignment 1 A$ ./3
            *
      *           *
    *               *
  *                   *
*                       *
  *                   *
    *               *
      *           *
            *
Ace: Assignment 1 A$ ▯
```

Problem 4:

Given a = 5, b = 1, x = 10, and y = 5, create a program that outputs the result of the formula $f = (a - b)(x - y)$ using a single printf() function.

Output:

```
Ace: Assignment 1 A$ gcc problem_04.c -o 4
Ace: Assignment 1 A$ ./4
The value of f = 20
Ace: Assignment 1 A$
```

Problem 5:

Create a program that uses the preceding formula and displays the result, but this time, prompt the user for the values a, b, x, and y. Use appropriate variable names and naming conventions.

Output:

```
Ace: Assignment 1 A$ gcc problem_05.c -o 5
Ace: Assignment 1 A$ ./5

Input value for a:  5

Input value for b:  7.5

Input value for x:  2

Input value for y:  3.4685

The value of f =    3.67
Ace: Assignment 1 A$
```

Problem 6:

Build a Shop Commission program that prompts a user for data and determines the commission for a merchant selling gear using the following formula: Commission = Rate * (Sales Price – Cost).

Output:

```
Ace: Assignment 1 A$ gcc problem_06.c -o 6
Ace: Assignment 1 A$ ./6

Input value for Rate:  4.5

Input value for Sales Price:  2000

Input value for Cost:  250

The value of Commission = 7875.00
Ace: Assignment 1 A$
```