1. A box of cookies can hold 24 cookies, and a container can hold 75 boxes of cookies. Write a program that prompts the user to enter the total number of cookies, the number of cookies in a box, and the number of cookie boxes in a container. The program then outputs the number of boxes and the number of containers to ship the cookies. Note that each box must contain the specified number of cookies, and each container must contain the specified number of boxes. If the last box of cookies contains less than the number of specified cookies, you can discard it and output the number of leftover cookies. Similarly, if the last container contains less than the number of specified boxes, you can discard it and output the number of leftover boxes.
2. Write a program that mimics a calculator. The program should take as input two integers and the operation to be performed. It should then output the numbers, the operator, and the result. (For division, if the denominator is zero, output an appropriate message.) Some sample outputs follow:

**3 + 4 = 7**

**13 \* 5 = 65**

1. A new author is in the process of negotiating a contract for a new novel. The publisher is offering three options. In the first option, the author is paid $5,000 upon delivery of the final manuscript and $20,000 when the novel is published. In the second option, the author is paid 12.5% of the net price of the novel for each copy of the novel sold. In the third option, the author is paid 10% of the net price for the first 4,000 copies sold, and 14% of the net price for the copies sold over 4,000. The author has some idea about the number of copies that will be sold and would like to have an estimate of the royalties generated under each option. Write a program that prompts the author to enter the net price of each copy of the novel and the estimated number of copies that will be sold. The program then outputs the royalties under each option and the best option the author could choose.
2. The cost of renting a room at a hotel is, say $100.00 per night. For special occasions, such as a wedding or conference, the hotel offers a special discount as follows: If the number of rooms booked is at least 10, the discount is 10%; at least 20, the discount is 20%; and at least 30, the discount is 30%. Also if rooms are booked for at least three days, then there is an additional 5% discount. Write a program that prompts the user to enter the cost of renting one room, the number of rooms booked, the number of days the rooms are booked, and the sales tax (as a percent). The program outputs the cost of renting one room, the discount on each room as a percent, the number of rooms booked, the number of days the rooms are booked, the total cost of the rooms, the sales tax, and the total billing amount.