OLD DOMINION UNIVERSITY

Random Numbers

Write a program that randomly generates 5 separate sequences of random numbers. Each sequence should consist of 6 numbers between 1 and 10 with no number being used twice.

Sample output:
Sequence1: 1,5,3,6,2,8
Sequence2: 3,4,1,6,7, 2
Sequence3: 5,1,7,6,9,4
Sequence4: 1, 3, 7, 4, 5, 9
Sequence5: 10,2,4,7,1,5

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Low-Fat / High-Fat Calculator

The owner of a local health club added a snack bar to her club. The snack bar offered low-fat items, such as fruit and herbal teas, along with high-fat items, such as pizza, chocolate, and milk shakes. Unfortunately, by noon each day, the snack bar was sold out of all of the high-fat items. To encourage her patrons to eat healthier and to motivate them to exercise more, the owner decided to calculate the fat calories and the fat percentage for each food item that the snack bar sold.

Your group has been hired to create an application that allows the owner to enter a specific food's total calories and grams of fat. The application then calculates and displays the food's fat calories (the number of calories attributed to fat) and its fat percentage (the ratio of the food's fat calories to its total calories). The number of fat calories in a food is determined by multiplying the number of fat grams contained in the food by the number nine, because each gram of fat contains nine calories. To calculate the fat percentage, the food's fat calories are divided by its total calories and the result is multiplied by 100. The message "Low-fat food" should be displayed if the fat percentage is less than or equal to 30 %; otherwise, the message "High-fat food" should be displayed.

Old Dominion University

Monday Changer

Write a program that tutors students in grades 1-4 to learn how to make change. The application should allow the student to enter the amount the customer owes and the amount of money the customer paid. The application should calculate and display the total amount owed to the customer and then break it down into the number of:

- $10 bills
- $5 bills
- $1 bills
- quarters
- dimes
- nickels
- pennies