Assignment 3

Task 1: Write statements to accomplish each of the following:

1. Display the value of the seventh element of character array f.

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| printf("%c", f[6]); |

1. Input a value into element 4 of single-subscripted floating-point array b.

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| b[4] = 1.0; |

1. Initialize each of the five elements of single-subscripted integer array g to 8.

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1. Total the elements of floating-point array c of 100 elements.

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1. Copy array a into the first portion of array b. Assume double a[11], b[34];

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1. Determine and print the smallest and largest values contained in 99-element floating- point array w.

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Task 1: Write a program that simulates coin tossing. For each toss of the coin the program should print Heads or Tails. Let the program toss the coin 100 times, and count the number of times each side of the coin appears. Print the results. The program should call a separate function flip that takes no arguments and returns 0 for tails and 1 for heads. [Note: If the program realistically simulates the coin tossing, then each side of the coin should appear approximately half the time for a total of approximately 50 heads and 50 tails.]

Paste your program code in the box below

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Paste your program output in the box below

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Task 3:  Write a function that takes three arguments: a character and two integers. The character is to be printed. The first integer specifies the number of times that the character is to be printed on a line, and the second integer specifies the number of lines that are to be printed. Write a program that makes use of this function.

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Paste your program output in the box below

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Task 4: Write a function that returns the index of the largest value stored in an array-of-double

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Task 5: Write a function that returns the difference between the largest and smallest elements of an array-of-int.

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Task 6: Write a program that simulates the rolling of two dice.

The program should use rand() to roll the first die, and should use rand() again to roll the second die. The sum of the two values should then be calculated.

[Note: Since each die can show an integer value from 1 to 6, then the sum of the two values will vary from 2 to 12, with 7 being the most frequent sum and 2 and 12 the least frequent sums.]

A picture containing text, electronics, keyboard

Description automatically generated

The above table shows the 36 possible combinations of the two dice.

Your program should roll the two dice 36,000 times. Use a single-subscripted array to tally the numbers of times each possible sum appears. Print the results in a tabular format. Also, determine if the totals are reasonable, i.e., there are six ways to roll a 7, so approximately one-sixth of all the rolls should be 7.

Paste your program code in the box below

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Paste your program output in the box below

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