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Group N

Lab 502 / Lecture 004

Questions:

I had no questions.

Acknowledgement:

I was the only one who contributed to my code.

//Main Pseudocode:

Data:

Given Data: n, number the user wants reversed

the first eleven digits of a UPC

Unknown Data: what the check number is for the given UPC

Plan:

Call the CheckDigit function

Print the prompt to the user asking for a number to be reversed.

Use scanf to get user input and assign it to n.

Call the function ReverseNumber passing it the parameter n

//Definition of function ReverseNumber

Function Name: ReverseNumber

Input:

n, the number to be reversed given by the user.

Output:

N.A. (with side effect of printing the last digit to the screen)

Data

N.A.

Plan

//Subproblem 1 get the last digit of n.

lastDigit = n % 10;

//Subproblem 2 get the remaining digits in n.

remainingDigits = n / 10;

//Subproblem 3 print the lastDigit in n.

printf(“%d” , lastDigit);

//Subproblem 4 if there are remaining digits call ReverseNumber again with the remaining digits.

if(remainingDigits > 0){

ReverseNumber(remainingDigits);

}

//Definition of function CheckDigit

Function Name: CheckDigit

Input:

n,x1,x2,x3,x4,x5,y1,y2,y3,y4,y5

Output:

N.A. (with the side effect of printing the check digit to the screen)

Data

N.A.

Plan

//Subproblem 1 get user input for the first eleven digits of the UPC

scanf(“%1d”, &n);

//Subproblem 2 set the first sum, second sum, and the combined sum

sum1 = n + x2 + x4 + y1 + y3 + y5;

sum2 = x1 + x3 + x5 + y2 + y4;

combinedSum = (3 \* sum1) + sum2;

//Subproblem 3 print the check digit based on the combinedSum

printf("The Check Digit is: %d \n", 9 - (combinedSum - 1) % 10);