Structured Programming Quiz 3V1

Student Name /ID:

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**Q1: What is the output of the following code:**

#include <stdio.h>

void foo(int arr[], int size, int score) {

for (int i = 0; i < size; i++) {

arr[i] += score;

}

}

int main() {

int numbers[3] = {10, 20, 30};

int Value = 5;

foo(numbers, 3, Value);

for (int i = 0; i < 3; i++) {

printf("%d ", numbers[i]);

}

return 0;

}

**Q2:** Write a complete C program that includes a function named **AverageAbove**. This function takes **an array of integers, its size, and a score value** as input parameters and returns the **average of all numbers greater than or equal to the given score** as a double. If no numbers meet the condition, the function should return 0.0. The main function should define an integer array of size **70**, take user input for the number of students (up to 70), and then read their grades. It should call AverageAbove to compute and display( print) the **average of students who passed (grades ≥ 50)**.

**#include <stdio.h>**

**// Function to calculate the average of numbers greater than or equal to a given score**

**double AverageAbove(int arr[], int size, int score) {**

**int sum = 0, count = 0;**

**for (int i = 0; i < size; i++) {**

**if (arr[i] >= score) {**

**sum += arr[i];**

**count++;**

**}**

**}**

**return (count > 0) ? (double)sum / count : 0.0;**

**}**

**int main() {**

**int grades[70], num\_students;**

**// Input the number of students**

**printf("Enter the number of students (up to 70): ");**

**scanf("%d", &num\_students);**

**// Validate input size**

**if (num\_students < 1 || num\_students > 70) {**

**printf("Invalid number of students. Please enter a value between 1 and 70.\n");**

**return 1;**

**}**

**// Input the grades**

**printf("Enter the grades of the students: \n");**

**for (int i = 0; i < num\_students; i++) {**

**scanf("%d", &grades[i]);**

**}**

**// Compute the average of students who passed (grades >= 50)**

**double average = AverageAbove(grades, num\_students, 50);**

**// Print the result**

**printf("The average of students who passed (grades >= 50) is: %.2f\n", average);**

**return 0;**

**}**