Structured Programming Quiz 3V2

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 **MaxAbove**, which takes an array of integers, its size, and a score value as input parameters and returns the **maximum value** among the numbers greater than or equal to the given score as an integer; if no such numbers exist, the function should return -1. The main function should define an **integer array named temp with a size of 70**, prompt the user to enter the values of temperatures , It should call MaxAbove to determine and print the **Max Temperature greater than 30 (temperature ≥ 30)**

**#include <stdio.h>**

**// Function to find the maximum value greater than or equal to a given score**

**int MaxAbove(int arr[], int size, int score) {**

**int max = -1;**

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

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

**if (max == -1 || arr[i] > max) {**

**max = arr[i];**

**}**

**}**

**}**

**return max;**

**}**

**int main() {**

**int temp[70], num\_temps;**

**// Input the number of temperatures**

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

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

**// Validate input size**

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

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

**return 1;**

**}**

**// Input the temperatures**

**printf("Enter the temperature values: \n");**

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

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

**}**

**// Compute the maximum temperature greater than or equal to 30**

**int max\_temp = MaxAbove(temp, num\_temps, 30);**

**// Print the result**

**if (max\_temp == -1) {**

**printf("No temperatures were greater than or equal to 30.\n");**

**} else {**

**printf("The maximum temperature greater than or equal to 30 is: %d\n", max\_temp);**

**}**

**return 0;**

**}**