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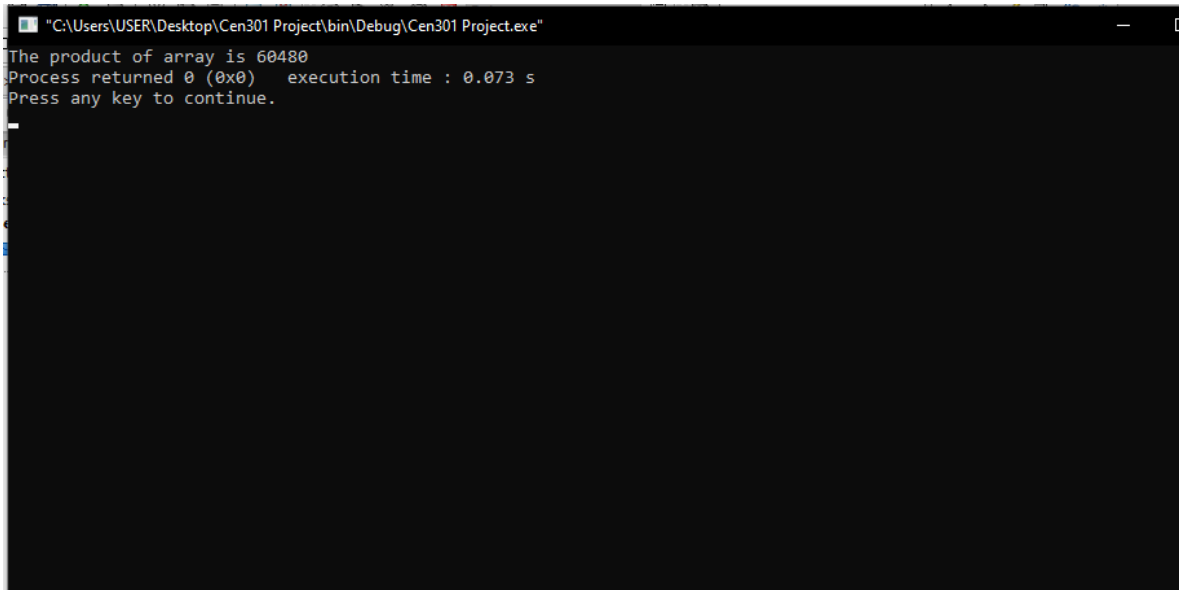
Mechatronics Engineering

2021/10398

CEN 301 ASSIGNMENT

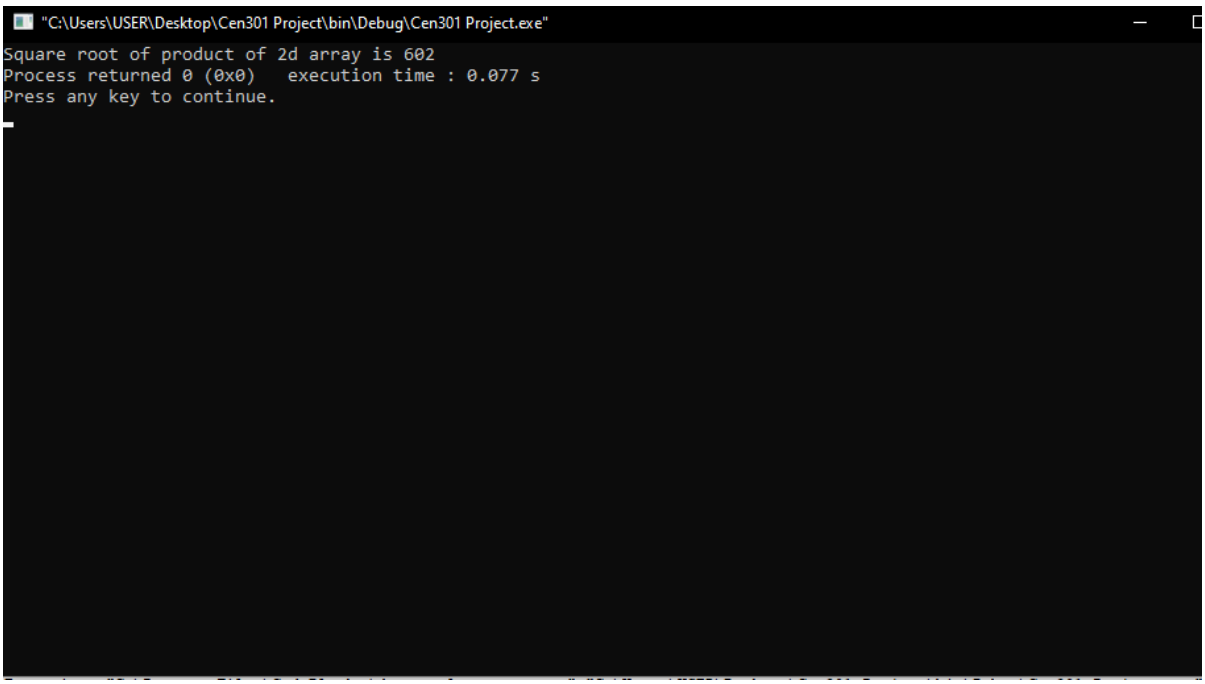
1. Initialize a 1-D array of size 10, find and display the product of the elements

```c
#include <stdio.h>
#include <stdlib.h>

int arr[10] = {2, 3, 4, 5, 6, 1, 1, 4, 7, 3};
int product = 1;

int main()
{
    for(int i = 0; i < 10; i++){
        product *= arr[i];
    }
    printf("The product of array is %d", product);
    return 0;
}
```



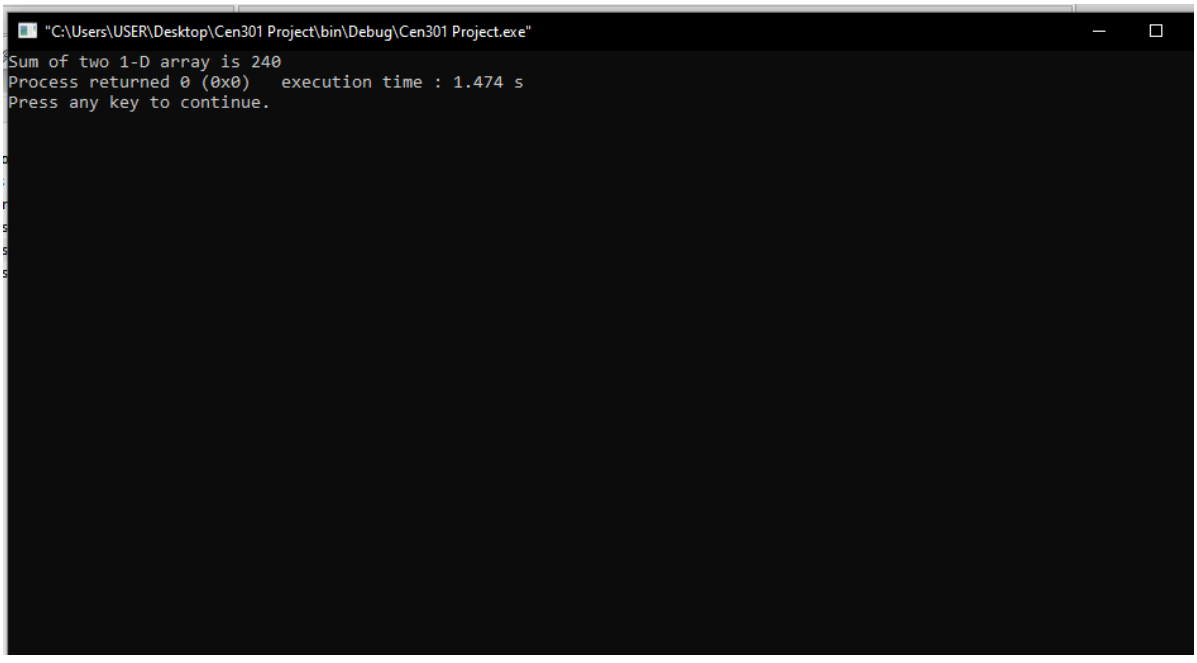
2. Declare and initialize a 2-D array of size 3x3, display the square root of the products

```c
int twoDArr[3][3]= {
    {1, 2, 3},
    {4, 5, 6},
    {7, 8 ,9},
};

int main()
{
    int product = 1;
    for(int i = 0; i < 3; i++){
        for(int j = 0; j < 3; j++){
            product *= twoDArr[i][j];
        }
    }
    int st = sqrt(product);
    printf("Square root of product of 2d array is %d", st);
    return 0;
}
```



3. Find the addition of two 1-D array of size 15

```c
#include <stdio.h>
#include <stdlib.h>

int oneDArr1[15] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15};
int oneDArr2[15] = {1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15};


int main()
{
    int totalSum = 0;
    for(int i = 0; i < 15; i++){
        totalSum += (oneDArr1[i] + oneDArr2[i]);
    }
    printf("Sum of two 1-D array is %d", totalSum);
    return 0;
}
```



4. Write a C program for 1-D array of size 6, display the sum of squares

```c
#include<stdio.h>
#include<math.h>
#include<stdlib.h>

int oneDArr[6] = {1, 2, 3, 4, 5, 6};
int sumOfSquares = 0;

int main(){
    for(int i = 0; i < 6; i++){
        sumOfSquares += (oneDArr[i] * oneDArr[i]);
    }

    printf("Sum of squares is %d", sumOfSquares);

    return 0;
}
```