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| **Ex No: 8** | Two Dimensional Array |

**AIM**

Populate a two dimensional array with height and weight of persons and compute the Body Mass Index of the individuals.

**PRE-LAB QUESTIONS**

1. Write the example code to declare two dimensional array
2. Declare a float array of size 5 and assign 5 values to it.
3. Write any four features of arrays
4. What are the disadvantages of arrays?
5. What are the applications of arrays?

**ALGORITHM**

**Step 1:** Start  
**Step 2:**  Read height and weight of persons in a 2D array

**Step 3:** Calculate Body Mass Index for each person   
 BMI = weight/ height2  
**Step 4:**  Display the result  
**Step 5:** End

**PROGRAM**

#include "stdio.h"

#define SIZE 2

int main**(**void**)** **{**

float WH**[**SIZE**][**SIZE**];**

float BMI**[**SIZE**];**

**for(**int i**=**0**;** i **<** SIZE**;** i**++)**

**{**

printf**(**"Enter weight(kg) and height(m) for Person %d:\n"**,** i**+**1**);**

scanf**(**"%f %f"**,&**WH**[**i**][**0**],** **&**WH**[**i**][**1**]);**

**}**

**for(**int i**=**0**;** i **<** SIZE**;** i**++)**

**{**

BMI**[**i**]** **=** WH**[**i**][**0**]** **/** **(**WH**[**i**][**1**]** **\*** WH**[**i**][**1**]);**

printf**(**"BMI for person %d: %.1f\n"**,** i**+**1**,** BMI**[**i**]);**

**}**

**}**

**INPUT**

Enter weight(kg) and height(m) for Person 1:

53.5 1.54

Enter weight(kg) and height(m) for Person 2:

78.0 1.72

**OUTPUT**

BMI for person 1: 22.6

BMI for person 2: 26.4

**POST-LAB QUESTIONS**

1. Write a C program to arrange the given 10 numbers in descending order
2. Write a C program to transpose a given matrix

**RESULT**

Thus the C program to find the program to populate a two dimensional array with height and weight of persons and compute the Body Mass Index of the individuals was successfully written and executed.