

## Chapter 8 (2102024 ID - Sharafat)

### MULTIPLE CHOICE QUESTIONS

- 8.1 (b) 25
- 8.2 (b) 9
- 8.3 (a) Static memory allocation
- 8.4 (d) Garbage value
- 8.5 (c) char student [5][30]
- 8.6 (c) 400

### REVIEW QUESTIONS

8.1

- (a) False
- (b) True
- (c) True
- (d) False
- (e) True
- (f) True
- (g) False
- (h) True
- (i) False
- (j) False
- (k) True
- (l) True

8.2

- (a) index
- (b) multidimensional
- (c) sorting
- (d) runtime
- (e) dynamic
- (f) garbage
- (g) NULL ("0")

8.3

```
#include <stdio.h>
int main ()
{
    int array[5][5];
    for (int i=0; i<5; i++)
        for (int j=0; j<5; j++)
            if (i==j)
                array[i][j]=1;
            else
                array[i][j]=0;
    return 0;
}
```

8.4 (e) `int matrix[3][5];`

8.5 (b) `char str2[] = "c";`

(c) `char str3[5] = "Moon";`

(d) `char str4[] = {'S', 'U', 'N'};`

(e) `char str5[10] = "Sun";`

8.6 A data structure is a way of organizing and storing data in a computer program or system. As an array can also do the same it's also a data structure

8.7 A dynamic array is a resizable array. It can be determined at compile-time.

It is created using pointer and memory allocation functions. It is widely used in database systems.

8.8 Discuss how initial values can be assigned to a multidimensional array?

Ans: To assign we can use

`int matrix[2][2][2] = {{1,2}, {3,4}}, {.....}};`

## DEBUGGING EXERCISES

- 8.1
- (a) `int score [100];`
  - (b) `float values [10][15];`
  - (c) `float average [ROW][COLUMN];`
  - (d) `double salary [i+ROW];`
  - (e) `long int number [ROW];`
  - (f) `int sum [n];`
  - (g) `int array [X][COLUMN];`

- 8.2
- (a) `int m[2][4] = {{0,0,0,0},{1,1,1,1}};`
  - (b) `float result [10] = {0};`

- 8.3
- (a) `for (i=0; i<4; i++)  
scanf ("%f", B[i]);`

- (b) `for (i=1; i<=5; i++)  
for (j=1; j<=4; j++)  
A[i][j] = 0;`

- (c) `for (i=0; i<4; i++)  
B[i] = B[i]+1;`

- 8.4
- ```
main()  
{  
    int n;  
    float a[n];  
    ...  
}
```

8.5 15

8.6 HLOWRD

## INTERVIEW QUESTIONS

8.1 Null array refers to the reference of an object, which is absent. On the other hand, empty array refers to an array that has been declared but has no elements.

8.2 Difference between malloc and calloc is, malloc use <sup>two</sup> ~~one~~ argument, where malloc ~~calloc~~ take ~~two~~ one argument.

8.3 To convert string to int or vice versa, we can use atoi() and sprintf()