socrative
A showbie PRODUCT

Data Structure _Test1

15 Questions

1. A program P reads in 500 integers in the range [0..100] representing the scores of 500 students. It then prints the frequency of each score above 50. What would be the best way for P to store the frequencies?

38/65 **A** An array of 50 numbers

4/65 **B** An array of 100 numbers

8/65 **C** An array of 500 numbers

15/65 **D** A dynamically allocated array of 550 numbers

2. Let A be a square matrix of size n x n. Consider the following program. What is the expected output?

```
C = 100
for i = 1 to n do
   for j = 1 to n do
   {
      Temp = A[i][j] + C
      A[i][j] = A[j][i]
      A[j][i] = Temp - C
   }
for i = 1 to n do
   for j = 1 to n do
      Output(A[i][j]);
```

20/65 **A** The matrix A itself

23/65 **B** Transpose of matrix A

21/65 **C** Adding 100 to the upper diagonal elements and subtracting 100 from diagonal elements of A

1/65 **D** None of the above

3. Which of the following correctly declares an array?

58/66 **A** int csvtu[20];

1/66 **B** int csvtu;

1/66 **C** csvtu{20};

6/66 **D** array csvtu[20];

4. Consider a two dimensional array A[20][10]. Assume 4 words per memory cell, the base address of array A is 100, elements are stored in row-major order and first element is A[0][0]. What is the address of A[11][5] ?

52/65 **A** 560

6/65 **B** 460

5/65 **C** 570

2/65 **D** 575

5. What will the output of the below code, be if the base address of the array is 1200?

```
#include <iostream>
using namespace std;

int main()
{

   int arr[] = { 1, 2, 3, 4, 5 };
   cout << arr << ", " << &arr << ", " << &arr[0] << endl;
   return 0;
}
```

5/65 **A** 1200, 1202, 1204

42/65 **B** 1200 1200 1200

16/65 **C** 1200, 1204, 1208

2/65 **D** 1200, 1204, 1208

6. Which of the following is the limitation of the array?

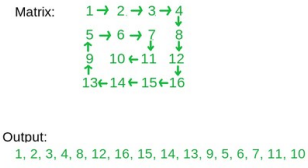
1/65 **A** elements can be accessed from anywhere.

14/65 **B** The size of the array is fixed.

10/65 **C** Indexing is started from Zero.

40/65 **D** Memory waste if an array's elements are smaller than the size allotted to them

7. Refer the below diagram and identify the problem.



2/65 **A** Normal traversal of the matrix.

9/65 **B** Row-wise traversal of the matrix.

2/65 **C** Column-wise traversal of the matrix.

52/65 **D** spiral traversal of the matrix

8. With the help of which operator array elements can be accessed?

2/64 **A** Parenthesis ( )

7/64 **B** Braces { }

53/64 **C** Subscript Operator [ ]

2/64 **D** None of these

9. Which of the following statements correctly declares a two-dimensional integer array in C/C++?

0/65 **A** arr[5 *4]

61/65 **B** int arr[5][4];

1/65 **C** arr[2][2]

3/65 **D** All of these

10. In an array int arr[3]={1,2,3}, what will happen if we try to access arr[4] in C/C++?

16/65 **A** Run TIme error

2/65 **B** 3

5/65 **C** 0

42/65 **D** Garbage Value

11. What is the time complexity to insert a single element in the array?

35/65 **A** O(1)

19/65 **B** O(n)

4/65 **C** O(log n)

7/65 **D** none

12. What is the time complexity for traversing a 2-d array?

21/65 **A** O(n)

4/65 **B** O(nlogn)

37/65 **C** O(n^2)

3/65 **D** None

13. Why the below code snippet provides error?

```
#include <iostream>
using namespace std;

int main() {

   int arr[3][2] ={{1,2,3},{4,5,6},{7,8,9}};
    for(int i=0;i<3;i++)
      for(int j=0;j<3;j++)
        cout<<arr[i][j]<<endl;
   return 0;
}
```

1/65 **A** arr[i][j] is is not declared

7/65 **B** there are no any braces used inside for loop

57/65 **C** We have declared an array of 3 rows and 2 columns, but assigned value to 3 rows and 3 columns.

0/65 **D** None

14. If two string s are identical, then strcmp() functions returns _____

1/65 **A** -1

21/65 **B** 1

3/65 **C** YES

40/65 **D** 0

15. What will be the output of the following piece of code?

```
int main() {
char ary[] = "Discovery Channel";
printf("%s", ary);
return 0;
}
```

3/64 **A** D

48/64 **B** Discovery Channel

9/64 **C** Discovery

4/64 **D** Compiler error