C LANG TEST-7 (ARRAY)

Total points 50/50

STUDENT NAME *

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✓ 1. An array in C is a collection of — * 1/1

- ○ A) Different data types
- ◉ B) Similar data types ✓
- ○ C) Both A and B
- ○ D) None of these

✓ 2. Array elements are stored in — * 1/1

- ◉ A) Continuous memory locations ✓
- ○ B) Random memory locations
- ○ C) Linked memory locations
- ○ D) Separate files

✓ 3. The first element of an array has an index — * 1/1

- ○ A) 1
- ◉ B) 0 ✓
- ○ C) -1
- ○ D) 2

✓ 4. The last element of an array with size n has an index — * 1/1

- ○ A) n
- ◉ B) n-1 ✓
- ○ C) n+1
- ○ D) n/2

✓ 5. The syntax for declaring an array in C is — * 1/1

- ◉ A) data_type array_name[size]; ✓
- ○ B) array_name[size] data_type;
- ○ C) data_type[size] array_name;
- ○ D) array(size)_name;

✓ 6. Which of the following correctly declares an integer array of size 10? * 1/1

- (●) A) int arr[10]; ✓
- ( ) B) int arr;
- ( ) C) array int arr[10];
- ( ) D) int[10] arr;

✓ 7. Array subscripts in C always start from — * 1/1

- (●) A) 0 ✓
- ( ) B) 1
- ( ) C) 2
- ( ) D) Depends on compiler

✓ 8. The elements of an array can be accessed using — * 1/1

- ( ) A) A string
- ( ) B) A subscript (index)
- (●) C) A pointer only ✓
- ( ) D) None

✓ 9. The process of storing values in an array is called — * 1/1

- (●) A) Initialization ✓
- ( ) B) Declaration
- ( ) C) Definition
- ( ) D) Evaluation

✓ 10. What will be the size of the array int a[10];? * 1/1

- ( ) A) 10 bytes
- ( ) B) 20 bytes
- (●) C) 40 bytes (if int = 4 bytes) ✓
- ( ) D) 4 bytes

✓ 11. What is the index of the last element of int num[7];? * 1/1

- ( ) A) 7
- (●) B) 6 ✓
- ( ) C) 8
- ( ) D) 5

✓ 12. Accessing an array element out of bounds in C leads to — * 1/1

- A) Compilation error
- B) Undefined behavior ✓
- C) Warning only
- D) Syntax error

✓ 13. In C, array elements are always stored in — * 1/1

- A) Column-major order
- B) Row-major order ✓
- C) Random order
- D) User-specified order

✓ 14. Which of the following is a valid initialization? * 1/1

- A) int a[3] = {1, 2, 3};
- B) int a[] = {1, 2, 3};
- C) int a[3] = {1, 2};
- D) All of these ✓

✓ 15. The array name in C acts as a — * 1/1

- (●) A) Constant pointer ✓
- ( ) B) Variable
- ( ) C) Function
- ( ) D) Dynamic variable

✓ 16. Which of the following accesses the 5th element of an array marks? * 1/1

- ( ) A) marks[5]
- ( ) B) marks(5)
- (●) C) marks[4] ✓
- ( ) D) marks{5}

✓ 17. . The elements of a 2D array int a[3][4]; are stored in — * 1/1

- (●) A) 3 rows and 4 columns ✓
- ( ) B) 4 rows and 3 columns
- ( ) C) 7 elements
- ( ) D) 12 columns

✓ 18. The total number of elements in int a[3][4]; is — * 1/1

- A) 7
- B) 12 ✓
- C) 10
- D) 3

✓ 19. Which of the following is true for arrays in C? * 1/1

- A) Size can be changed during execution
- B) Size must be a constant expression ✓
- C) Array size is optional
- D) None

✓ 20. The base address of an array arr is the address of — * 1/1

- A) arr[0] ✓
- B) arr[1]
- C) arr[2]
- D) None

✓ 21. The array int a[5] = {0}; initializes — * 1/1

- A) Only first element to 0
- B) All elements to 0 ✓
- C) Only last element to 0
- D) None

✓ 22. Array elements are accessed using — * 1/1

- A) [] operator ✓
- B) {} operator
- C) () operator
- D) :: operator

✓ 23. Which of these is invalid? * 1/1

- A) int a[3] = {1, 2, 3};
- B) int a[] = {1, 2, 3, 4};
- C) int a[2] = {1, 2, 3}; ✓
- D) int a[3];

✓ 24. To access a[2][3], the compiler calculates address using * 1/1

- (●) A) Row-major formula ✓
- ( ) B) Column-major formula
- ( ) C) Random offset
- ( ) D) None

✓ 25. Which header file is needed to use arrays? * 1/1

- ( ) A) stdio.h
- ( ) B) array.h
- (●) C) no header file needed ✓
- ( ) D) conio.h

✓ 26. Arrays can be passed to functions by — * 1/1

- ( ) A) Value
- (●) B) Reference (pointer) ✓
- ( ) C) Copy
- ( ) D) Structure

✓ 27. Arrays in C can store — * 1/1

- A) Only integers
- B) Only characters
- (●) C) Any one type of data ✓
- D) Mixed data

✓ 28. A character array is used to store — * 1/1

- A) Numbers
- (●) B) Strings ✓
- C) Pointers
- D) None

✓ 29. The null character in a string array is represented by — * 1/1

- A) '/0'
- (●) B) '\0' ✓
- C) '0'
- D) 0

✓ 30. What will int a[5] = {1,2}; contain? * 1/1

- (●) A) 1,2,0,0,0 ✓
- ( ) B) 1,2,garbage
- ( ) C) 1,2,3,4,5
- ( ) D) None

✓ 31. The address of a[i] is given by — * 1/1

- ( ) A) base(a) + i
- (●) B) base(a) + i * size of element ✓
- ( ) C) base(a) * i
- ( ) D) base(a) + 1

✓ 32.What is the output? * 1/1

```
int a[5] = {1,2,3,4,5};
printf("%d", a[2]);
```

- ( ) A) 1
- ( ) B) 2
- (●) C) 3 ✓
- ( ) D) 4

✓ 33. . Arrays are also known as — * 1/1

- (●) A) Derived data types ✓
- ( ) B) User-defined data types
- ( ) C) Primitive types
- ( ) D) None

✓ 34. Which of these statements is true? * 1/1

- (●) A) Arrays can have variable length in C99 and above ✓
- ( ) B) Arrays are always dynamic
- ( ) C) Arrays cannot be initialized
- ( ) D) Arrays are stored randomly

✓ 35. The statement int arr[3][2] = {{1,2}, {3,4}, {5,6}}; creates how many elements? *1/1

- ( ) A) 5
- (●) B) 6 ✓
- ( ) C) 7
- ( ) D) 8

✓ 36. . In C, an array name without subscript gives — * 1/1

- (●) A) Base address of array ✓
- ( ) B) Value of first element
- ( ) C) Address of last element
- ( ) D) None

✓ 37. Which operator gives the size of an array? * 1/1

- (●) A) sizeof ✓
- ( ) B) lengthof
- ( ) C) count
- ( ) D) size

✓ 38.What is the output? * 1/1

```
int a[2][2] = {{1,2},{3,4}};
printf("%d", a[1][0]);
```

- ( ) A) 1
- ( ) B) 2
- (●) C) 3 ✓
- ( ) D) 4

✓ 39. In C, a string is actually — * 1/1

- (●) A) Array of characters ✓
- ( ) B) Pointer to integer
- ( ) C) Function
- ( ) D) Structure

✓ 40. To find the number of elements in array a, we use — * 1/1

- (●) A) sizeof(a)/sizeof(a[0]) ✓
- ( ) B) length(a)
- ( ) C) count(a)
- ( ) D) elements(a)

✓ 41.What is the output? * 1/1

```
int a[3] = {10,20,30};

printf("%d", *(a+1));
```

- ( ) A) 10
- (●) B) 20 ✓
- ( ) C) 30
- ( ) D) Error

✓ 42. . What type of memory allocation is used for arrays? * 1/1

- (●) A) Static ✓
- ( ) B) Dynamic
- ( ) C) Both
- ( ) D) Heap

✓ 43. Which of the following cannot be changed after array declaration? * 1/1

- ( ) A) Elements
- (●) B) Size ✓
- ( ) C) Index
- ( ) D) Value

✓ 44. If int arr[5]; and arr is at address 2000, and each int is 4 bytes, what is the address of arr[3]? *1/1

- ( ) A) 2012
- ( ) B) 2016
- (●) C) 2020 ✓
- ( ) D) 2032

✓ 45. A 3D array int a[2][3][4]; has how many elements? * 1/1

- (●) A) 24 ✓
- ( ) B) 12
- ( ) C) 9
- ( ) D) 18

✓ 46. Arrays in C can have * 1/1

- ( ) A) One dimension only
- ( ) B) Two dimensions only
- (●) C) Multiple dimensions ✓
- ( ) D) None

✓ 47.What will be printed? * 1/1

```
char name[6] = "CProg";
printf("%s", name);
```

- (●) A) CProg ✓
- ( ) B) CProg\0
- ( ) C) Error
- ( ) D) C

✓ 48. Which of these is not a valid array operation? * 1/1

- ○ A) Accessing by index
- ○ B) Adding arrays directly
- ○ C) Assigning one array to another directly
- ◉ D) Both B and C ✓

✓ 49. What is the correct way to initialize a character array? * 1/1

- ○ A) char str[] = {'H','i','\0'};
- ○ B) char str[] = "Hi";
- ◉ C) Both A and B ✓
- ○ D) None

✓ 50. The elements of an array are always stored — * 1/1

- ◉ A) Sequentially in memory ✓
- ○ B) In reverse order
- ○ C) Randomly
- ○ D) None