ARICENT: First Mile Foundation Program

Quiz 2 Solutions

For questions, refer to the Quiz page. Only the solutions are given below

1. Answer : A
   Both pointers and array can be used to store a string.

2. Answer : D
   The program may crash is the correct answer. But modern compiler will take care of this kind of situations.

3. Answer : B
   ++*ptr increments the value being pointed to by ptr.
   *ptr++ means grab the value of (*ptr) and then increment it.

4. Answer : B
   It is an array which can store integer pointers

5. Answer : C
   In line 5, *p1 = 10; so the value of variable x is changed to 10.
   In line 6, *p2 = *p1 → value of variable y is changed to 10
   In line 7, p1 = p2 → pointer p1 points to variable y now
   In line 8, *p1 = 20 → value of variable y is now changed to 20

6. Answer : C, D
   A void pointer is a pointer that has no associated datatype with it. It can hold address of any datatype and can be typecasted to any datatype.

7. Answer : C
   Program is calculating string length using pointer.

8. Answer : B
   a => base address of multidimensional array
   (a+1) => increments the value of array pointer by 1 that in turn points to row 2 of array(property of multidimensional array pointer as it points to array of pointers(which are pointing to 1D arrays)).
   (*(a+1)+2) now points to exact same location as a[1][2].

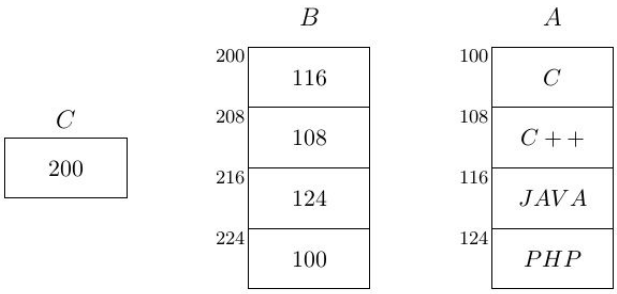
9. Answer : B
   If statement will compare the base address of two arrays ‘a’ and ‘b’,and they are not same. So condition becomes false and program prints “no”

10. Answer : B

    Addition of pointers are not valid in C,whereas subtraction is allowed.

11. Answer : C

    Assume the following memory locations for different strings and the pointers.



    C = B will initialize it to 200.

    ++C => C has address 208

    *C+1 => its pointing to next location of 108 (116)

    *(*C+1)+1 => pointing to 2nd character at 116

    printing *(*C+1)+1 will print all characters from 2nd character of JAVA

12. Answer : A

    Multidimensional arrays are indexed in the order of highest to lowest. Here, a[x] and *(a+x) refer to the same “plane”. Pointer arithmetic is done internally by the compiler the way it is suggested in the answers.

13. Answer : B

    abc[3] = r = 114(ASCII)

    abc[4] = o = 111(ASCII)

    = (abc + 114 - 111)

    = (abc + 3)

14. Answer : A

    int indicates an integer variable

    int * indicates a pointer to an integer variable

    int ** indicate a pointer to pointer to an integer variable

15. Answer : A

    Subtracting pointers gives total number of objects between them.

16. Answer : A

I is valid, assigning value to pointer A[2],

II is valid, possible due to array styled indexing of pointers

IV is valid, simple assignment to 2-dimensional array

Example:

```
int *A[10], B[10][10];
int C[2]={1,6};
A[2]=C;
A[2][1]=5;
B[2][3]=4
```

17. Answer : D

strlen: Computes string length

strchr: Search string for a character

strcat: Concatenating two strings

strcmp: Compare two strings