

**Answer: 3, 2, 15**

$a[0] = 5, a[1] = 1, a[2] = 15, a[3] = 20, a[4] = 25$ . int i, j, m; The variable i, j, m are declared as an integer type.  $i = ++a[1]$ ; becomes  $i = ++1$ ; Hence  $i = 2$  and  $a[1] = 2$ .  $j = a[1]++$ ; becomes  $j = 2++$ ; Hence  $j = 2$  and  $a[1] = 3$ .  $m = a[i++]$ ; becomes  $m = a[2]$ . Hence  $m = 15$  and i is incremented by 1 (i++ means 2++ so i=3). `printf("%d, %d, %d", i, j, m)`; It prints the value of the variables i, j, m.

**Answer: 9**

$x[i]$  is equivalent to  $*(x + i)$ ,  
so  $(buf + 1)[5]$  is  $*(buf + 1 + 5)$ , i.e.  $buf[6]$ .

**Answer: 0 garbage value garbage value**

When an array is partially initialized at the time of declaration then the remaining elements of the array is initialized to 0 by default.

**Answer: 65480, 65496**

The array  $a[3][4]$  is declared as an integer array having the 3 rows and 4 columns dimensions. Next, the base address (also the address of the first element) of array is 65472. For a 2D array like a reference to array has type "pointer to array of 4 ints". Therefore,  $a+1$  is pointing to the memory location of first element of the second row in array a. Hence  $65472 + (4 \text{ ints} * 2 \text{ bytes}) = 65480$ . Then,  $\&a$  has type "pointer to array of 3 arrays of 4 ints", totally 12 ints. Therefore,  $\&a+1$  denotes "12 ints \* 2 bytes \* 1 = 24 bytes". Hence, beginning address  $65472 + 24 = 65496$ . So,  $\&a+1 = 65496$ .

**Answer: 10**

The sizeof function return the given variable. Example: float  $a=10$ ; `sizeof(a)` is 4 bytes. The variable arr is declared as an floating point array and it is initialized with the values. The variable arr has 4 elements. The size of the float variable is 4 bytes. Hence 4 elements x 4 bytes = 16 bytes  
`sizeof(arr[0])` is 4 bytes. Hence  $16/4$  is 4 bytes. Hence the output of the program is '4'.

**Answer: SSALC C**

**When  $i=\text{strlen}(\text{str})$ , then it print nothing.**

As i is with the length of string and hence in array rev the contents are copied as "\0 SSALC C ". But while displaying those contents with puts function it stops because of the first character '\0' and hence no output.

**Answer: 2022**

Explanation:  $p[3] - p[1] = \text{ASCII value of 'E'} - \text{ASCII value of 'A'} = 4$ . So the expression  $p + p[3] - p[1]$  becomes  $p + 4$ . So, it will print the string starting from  $p+4$

**Answer: 90675**

Explanation: address of second character is stored in p and then its value is changed to 0 and hence 8 is replaced by 0.

**Answer: String is not empty**

printf does not print anything so it will return 0 and hence else part will execute.

**Answer: C carefully**

Each letter in string[] array is stored in separate address. The starting address in string[] array is stored a pointer variable ptr which is then incremented by 6. Thus "learn " is neglected and "C carefully " is displayed.

**Answer: 12**

Here, iptr holds the address of first element in an array arr i.e, address of 10. In printf statement we increment the address by  $(2 * \text{sizeof}(\text{int}))$ . Thus, iptr now points to the address of 12. Asterisks (\*) in printf statement prints the value inside the address i.e, 12.

**Answer: str2 is lesser than str1**

The C library function `int strncmp(const char *str1, const char *str2, size_t n)` is used to compare at most the first n bytes of str1 and str2.