

Assignment - 5

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Write the statement reading which describes below syntax & draw its diagrammatic layout.

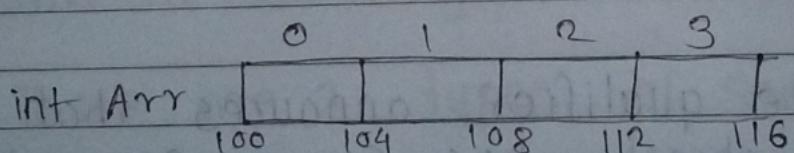
1) int Arr [4];

A Statement reading:-

- Above Array is one dimensional Array which contains 4 elements in it.

- Each elements in it integer datatype.

Diagrammatic layout



Size of int Arr = 16 byte

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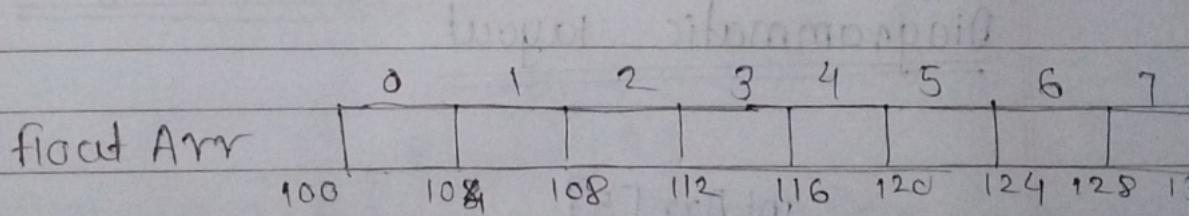
2] float Arr[8];

statement reading

Above Array is one dimensional array which contains 8 elements in it

- Each elements in it has float datatype.

Diagrammatic layout



size of float. Arr = 32 bytes

3] `int Arr [3] [5];`

Statement reading

Above Array is one dimensional Array which contain three & five one dimensional Array in it each one dimensional Array contain 3 and 5 elements each type of element has integer datatype.

Diagrammatic layout

int Arr [5]					Column
					Row
0					
1					
2					

`int Arr [3] [5];`

size of `int Arr [3] [5];` = 60 bytes

Q) `double Arr[3][3];` ~~int arr[3][3];~~ ~~float arr[3][3];~~

statement reading

Above Array is 2D Array which contains three one dimensional Array in it.

Each one dimensional Array contains 3 elements each type of element has double datatype

Diagrammatic layout

column					
			0	1	2
Row	0	.	.	.	
	1	.	.	.	
	2	.	.	.	

Row Column
↑ ↑
[3] : [3]

`double Arr[3][3]`

Size of `double Arr[3][3]` = 72 bytes

char Arr [3] [4];

Statement reading

Above Array is 2D Array containing three & four one dimensional Array in it.

Each one dimensional Array contains 3 & 4 elements in it having character datatype.

Diagrammatic layout

		column				
		0	1	2	3	
Row	0					
	1					
2						

char Arr [3] [4];

Size of char Arr [3] [4]; = 12 bytes

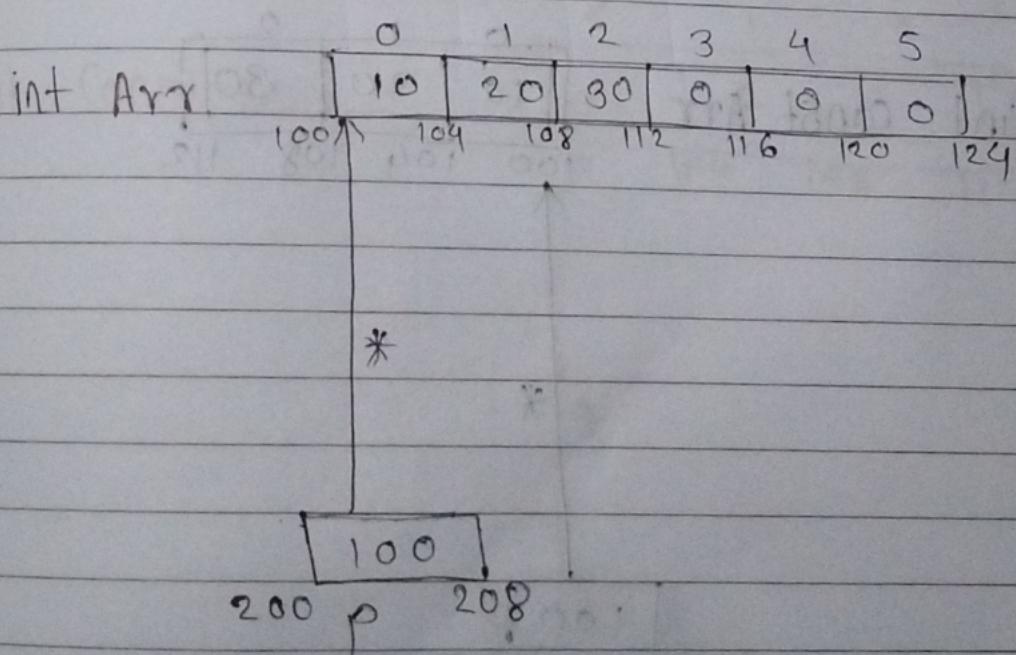
6) $\text{int Arr[6]} = \{10, 20, 30\};$
 $\text{int * p} = \& \text{Arr};$

Statement reading

- Above Array is one dimensional array having length is 6 & it contain the 3 elements in it each element having datatype is integer.

- By using the p variable i.e we create the pointer of int Array which stores the ^{Base} Address of the Array.

Diagrammatic layout



D) `int const Arr [3] = {10, 20, 30};`
`int *p = &Arr;`

Statement reading

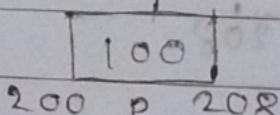
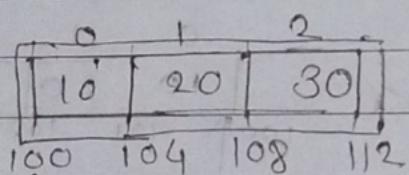
Above Array is constant one dimensional Array having length 3 it contains 3 elements in it.

Each elements in it integer datatype elements initialize 10, 20, 30

P is a pointer var which points to integer constant Array & it holds the memory Address of Array.

Diagrammatic layout

`int const Arr`



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```
int const Arr [3] = {1, 2, 3};  
int const * Const P = &Arr;
```

Statement reading

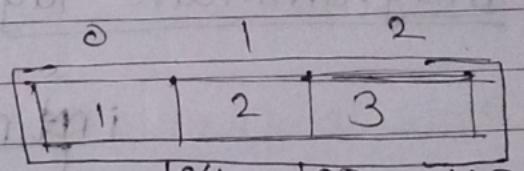
Above Array is constant one dimensional array contains 3 elements in it.

Each element in it has integer datatype elements initialize 1, 2, 3.

- p is constant pointer which points to integer constants and char Array if currently store the Address of that Array

Diagrammatic layout

```
int Const Arr
```

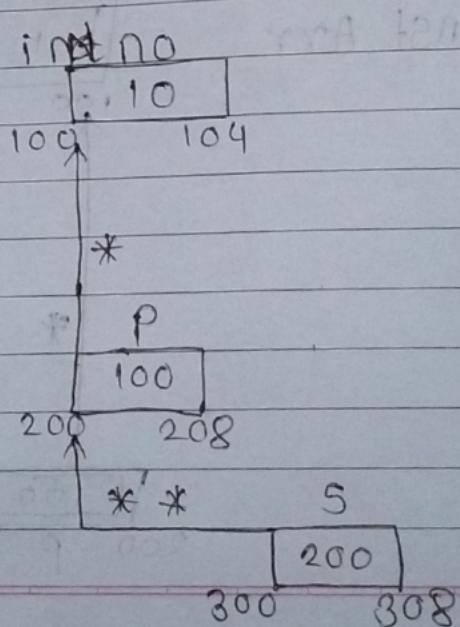


g) `int no = 10;`
`int *p = &no;`
`int **s = &p;`

statement reading

- no is variable having datatype is integer and initialize the value 10
- p is pointer which points to integer no & currently store the address of no
- s is pointer which points to pointer variable p & store the address of p.

Diagrammatic layout



10) `char c='z';`
`char *chptr = &c;`
Statement reading:-

- c is a variable having datatype character & initialized with 'z'.
- chptr is a pointer which points to char c & currently stores the Address of c.

Diagrammatic layout:

