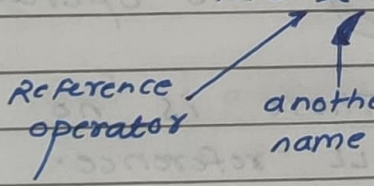
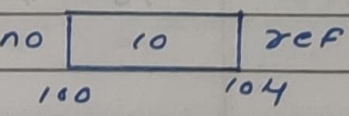
Assignment - 12

Q.1 What is mean by reference in c++?

- Reference is just another name to any variable.
- As reference is just another name of an variable the seperate memory is not allocated to the reference.
- when we write & operator at the left side of assignment operator it becomes the reference of that variable.
- This reference (another name of variable) is stored inside the symbol table.

e.g.
```
int no = 10 ;
int &ref = no;
```





- Reference is used in:

1. call by reference to the function
2. concept of copy constructor.

Q.2. What is the difference between pointer and Reference.

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Pointer	Reference
• Pointer store the address of variable in it	• It does not store the address of variable It is just a another name to the variable
• Memory allocated to the pointer is 8 bytes, because address is long int internally.	• Memory is not allocated to the reference variable.
• An operator is *	• An operator is & is used left side of assignment operator (=).
• There can be NULL pointer.	• There is no NULL reference.
• Possible to Initialize at any time.	• must be initialized at time of creating reference.
• We can create pointer to pointer.	• We can create reference to reference.

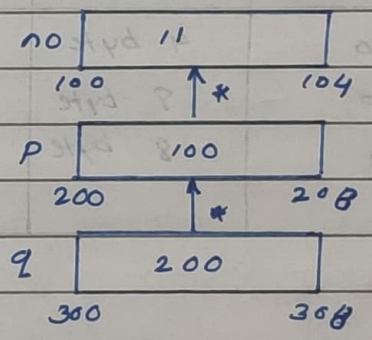
Q.3. ways in which we call function in c++

→ 1. call by value
2. call by reference

Q.4. what is difference between call by value and call by reference. [Yet to complete]

Q.5 Draw symbol table for below syntax.

→
```
int no = 11;
int *p = &no;
int **q = &p;
```



Diagramatic Repre.

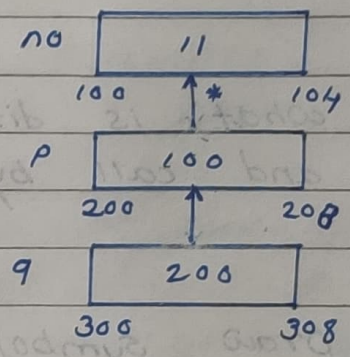
Symbol table

name	address	size	value	data type	another name
no	100	4	11	int	-
p	200	8	100	int pointer	-
q	300	8	200	pointer	-

Q.6 Draw symbol table & diagramatic representation of below syntax

—→

```
int  no = 11 ;
int  *p = &no;
int *q = &p ;
```



Diagramatic repre.

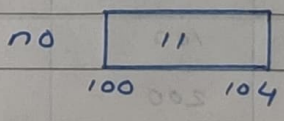
Symbol Table

name	size	address	value	datatype	another name
no	4 byte	100	11	int	-
p	8 byte	200	100	pointer	-
q	8 byte	300	200	pointer	-

Q.7. Draw symbol table & diagramatic representation of below syntax.

—→

```
int no = 11 ;
int &i = no;
int &j = no;
```

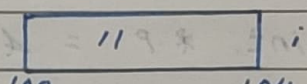


Symbol Table

name	address	value	Datatype	size value	Another name
no	100	11	int	4 byte	i, j

Q.8. Draw symbol table & diagrammatic representation of below syntax.

```
int no=11;
int &i = no;
int &j = i;
```



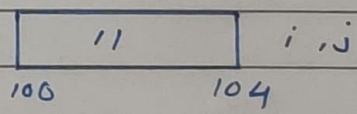
Diagrammatic Representation

Symbol table

name	size	address	value	datatype	another name
no	4 byte	100	11	int	i, j

Q.9 Draw Symbol table & diagrammatic Representation below Syntax.

```
int no=11;
int &i = no;
int &j = i;
```

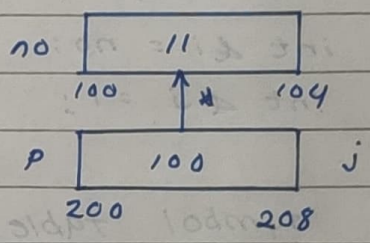


Symbol Table

name	size	address	value	datatype	another name
no	4 byte	100	11	integer	i, j

Q. 10 Draw Symbol table & diagrammatic representation of below syntax.

```
int no = 11;
int *p = &no;
int *(&j) = p;
```



Symbol Table

name	Size	value	address	datatype	another name
no	4 byte	11	100	int	-
p	8 byte	100	200	pointer	j