

DATE: _____

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Dry-Run

Insertion sort:

```
int main() {
```

```
int arr[] = { 64, 34, 25, 12, 22, 11 }
```

64	34	25	12	22	11
----	----	----	----	----	----

```
int n = sizeof(arr) / sizeof(arr[0]);
```

```
24/4 → n=6
```

// Insertion sort function.

```
void insertionsort ( int arr[], int n ) {
```

```
for ( int i=1; i<n; i++) {
```

```
    int key = arr[i];
```

```
    int j = i-1
```

```
    while ( j>0 && arr[j]>key ) {
```

```
        arr[j+1] = arr[j];
```

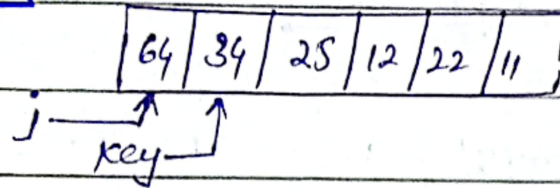
```
        j--;
```

```
    }
```

```
    arr[j+1] = key
```

```
}
```

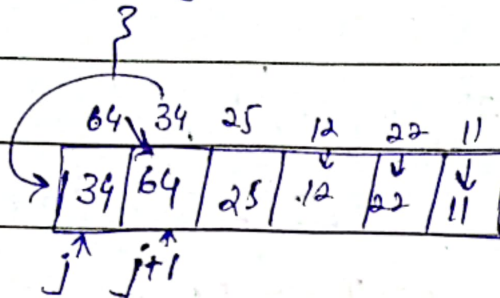
```
}
```

$i = 1$  $j = i - 1$ $j = 0$

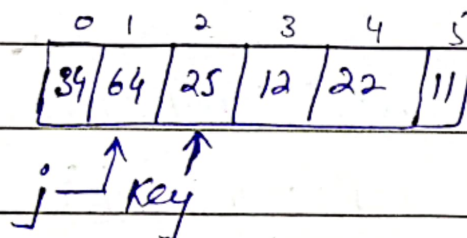
while ($j \geq 0$ && $arr[j] > key$) $\{ \rightarrow$ True.

$arr[j+1] = arr[j]$

$j--;$

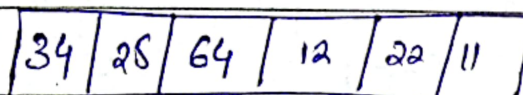


$arr[j+1] = key$
 $= 1+1 = 0$

 $i = 2$  $j = i - 2$ $j = 1$

while ($j \geq 0$ && $arr[j] > key$) $\{$

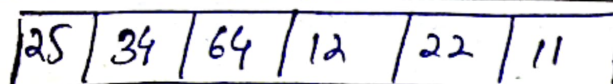
$arr[j+1] = arr[j]$



$j--;$ $j = 0$

while ($0 \geq 0$ && $34 > 25$) $\{$

$arr[0+1] = arr[0]$



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$j--;$ condition false.

In the same way for $i=3, l=4$
 $i \neq 5$ the array will be sorted

11	12	22	25	34	64
----	----	----	----	----	----