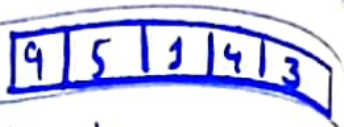
Date: / /20

Insertion sort

int data[5] = {9, 5, 1, 4, 3}



insertionsort(data);

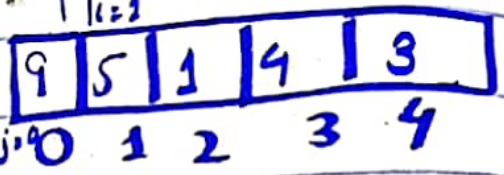
we call the insertionsort function

void insertionsort(int array[])

{

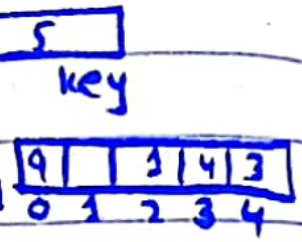
for(int k = 1; k < 5; k++)

int key = array[k] (k = 1)



int j = k-1 = 0 (1-1)

while (key < array[j] && j >= 0) (5, 0, 0>=0)



{

array[j+1] = array[j] (0+1)

--j (0)

}

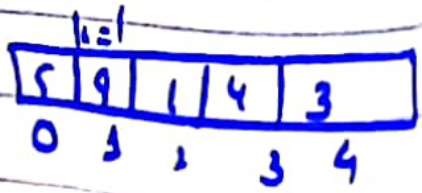
∴ Again go back to while loop

while (key < array[j] && j >= 0) → false (5, Null, -1)

Now the condition is false

so we skip the while loops.

array[j+1] = key (0+1) →



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∴ Again repeat for loop

for (int k=1; k<5; k++)

int key = array[k]

int j = k-1

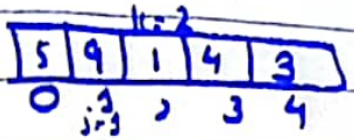
while (key < array[j] && j>=0)

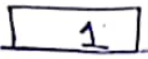
{

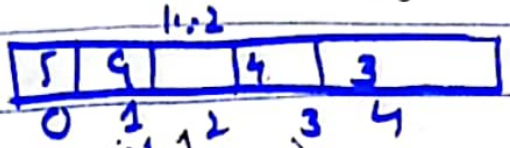
array[j+1] = array[j]

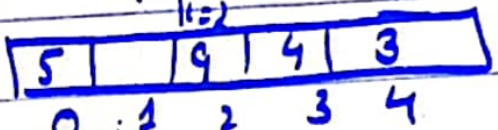
--j;

}









Again repeat while loop

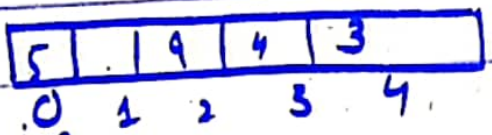
while (key < array[j] && j>=0)

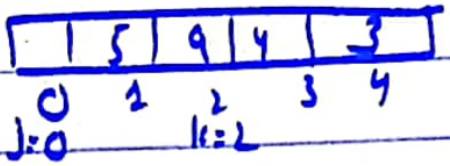
{

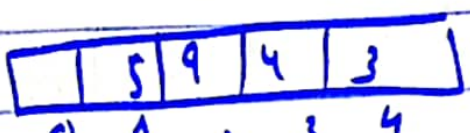
array[j+1] = array[j]

--j;

}





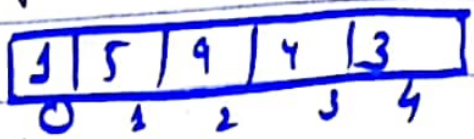


Again repeat while loop

while(key < array[j] && j >= 0) → false

Now skip while loop

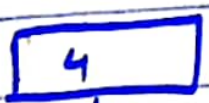
arr[j+1] = key



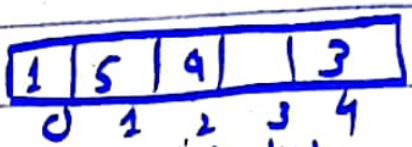
Again repeat for loop

for (int k = 1; k < 5; k++)

int key = array[k]



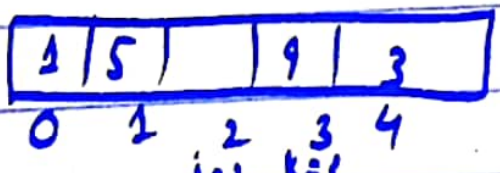
int j = k - 1



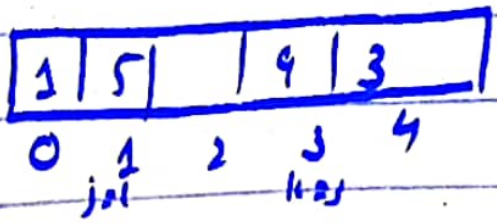
while(key < array[j] && j >= 0)

{

arr[j+1] = arr[j]



--j



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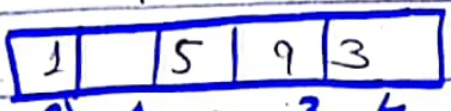
Again repeat while loop

```
while (key < array[j] && j >= 0)
{
    array[j+1] = array[j]
```



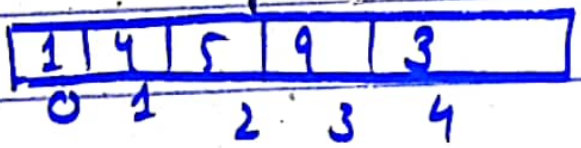

```
    --j
}
```

Again repeat while condition:

```
while(key < array[j] && j >= 0) -> false
{
```

Now we skip false while loops;

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



Now this process repeat again and again until the array is sorted.