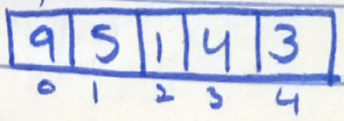
Date: / /20 Day:

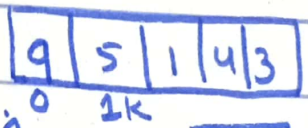
Insertion sort

```
int data[5] = {9, 5, 1, 4, 3}
insertionsort(data);
```

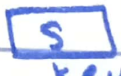


call the insertion function;

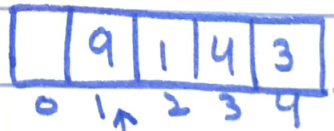
```
void insertionsort(int array[7])
{
  for(int k = 1; k < 5; k++)   1<5 True
    int key = array[k];   key = 5
```




```
    int j = k - 1;   j = 0
```




```
    while(key < array[j] && j >= 0)   5 < 9 && 0 >= 0 True
    {
      arr[j+1] = array[j];   arr[0+1] = array[0];
      --j;   -1
    }
```



again while loop;

```
while( key < array[j] && j >= 0)   5 < -1 && -1 >= 0 False
{
  arr[j+2] = array[j];
  --j;
}
```

As "while loop" is false. hence skip this and move to "for loop".

Date: / /

array[j+1] = key;

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

int key, array[k];

int j = k - 1;

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

{

array[j+1] = array[j];

--j;

}

again while loop

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

{

array[j+1] = array[j];

--j;

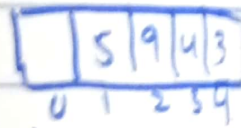
}

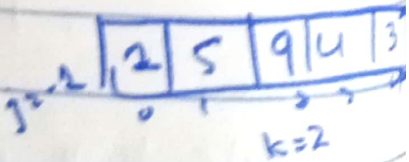
again while loop

while(key < array[j] && j >= 0) → for

so,

array[j+1] = key





in this way the whole array will be

Date: Day:

sorted.