

# HASH AGILE CODING

## ROUND 1

**Name : Gogulakkannan U**

**Email id : [gogulakkannan1424@gmail.com](mailto:gogulakkannan1424@gmail.com)**

### **Problem Statement:**

Rotate an Array Right by K Positions:

Write a program to rotate an array right by k positions without using any built-in array or rotation

functions. For example, rotating [1, 2, 3, 4, 5] by 2 would give [4, 5, 1, 2, 3].

Instructions: You should implement the logic manually for rotating the array.

### **Program Code:**

```
def arr_len(arr)
  count = 0
  arr.each { count += 1 }
  count
end
def rev(arr,x,y)
```

```

while x < y
  arr[x], arr[y] = arr[y], arr[x]
  x += 1
  y -= 1
end
end

def rotate(arr, k)
  n = arr_len(arr)
  k = k % n
  rev(arr, 0, n-1)
  rev(arr, 0, k-1)
  rev(arr, k, n-1)
end

val = [
  [2, 4, 6, 8, 10, 12, 14, 16, 18, 20],
  [5, 10, 15, 20, 25],
  [1, 5, 9, 13, 17, 21, 25, 29],
  [0, 3, 4, 6, 8, 12, 16]
]

k_val = [0, 2, 5, 6]

val.each_with_index do |i, j|
  k = k_val[j]
  puts "Given Array: #{i}"
  rotate(i, k)
  puts "Rotated Array for the value #{k} is : #{i}"
end

```

## Program Output:

Given Array: [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]

Rotated Array for the value 0 is : [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]

Given Array: [5, 10, 15, 20, 25]

Rotated Array for the value 2 is : [20, 25, 5, 10, 15]

Given Array: [1, 5, 9, 13, 17, 21, 25, 29]

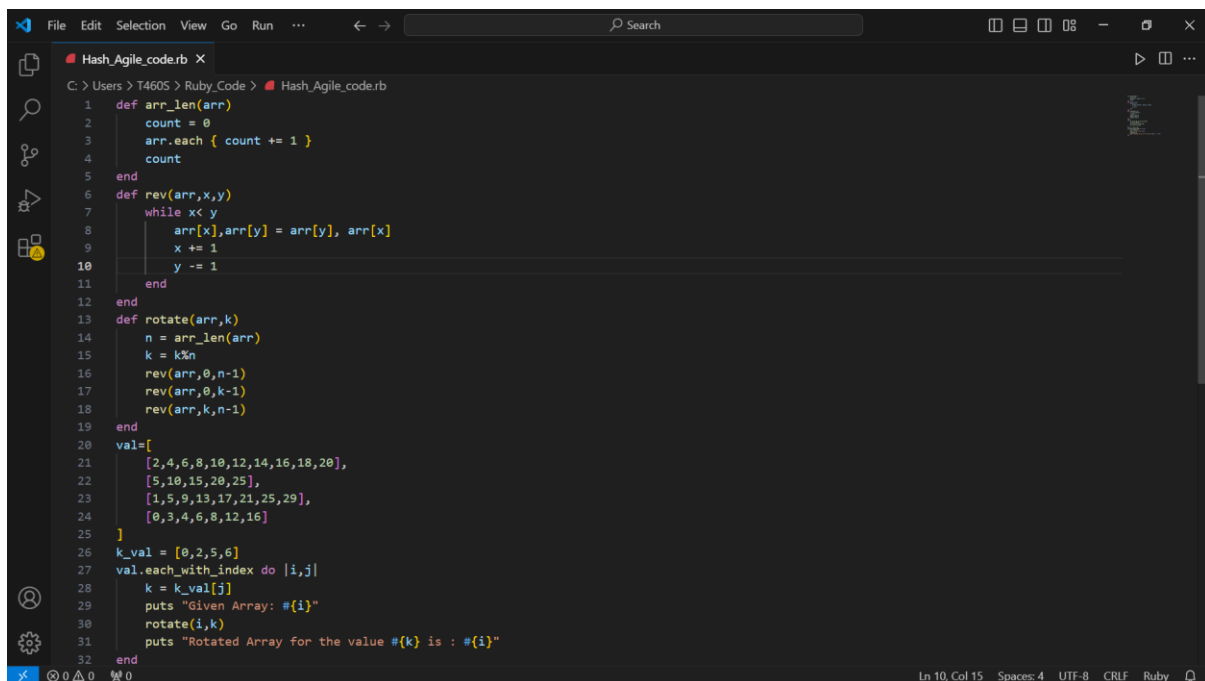
Rotated Array for the value 5 is : [13, 17, 21, 25, 29, 1, 5, 9]

Given Array: [0, 3, 4, 6, 8, 12, 16]

Rotated Array for the value 6 is : [3, 4, 6, 8, 12, 16, 0]

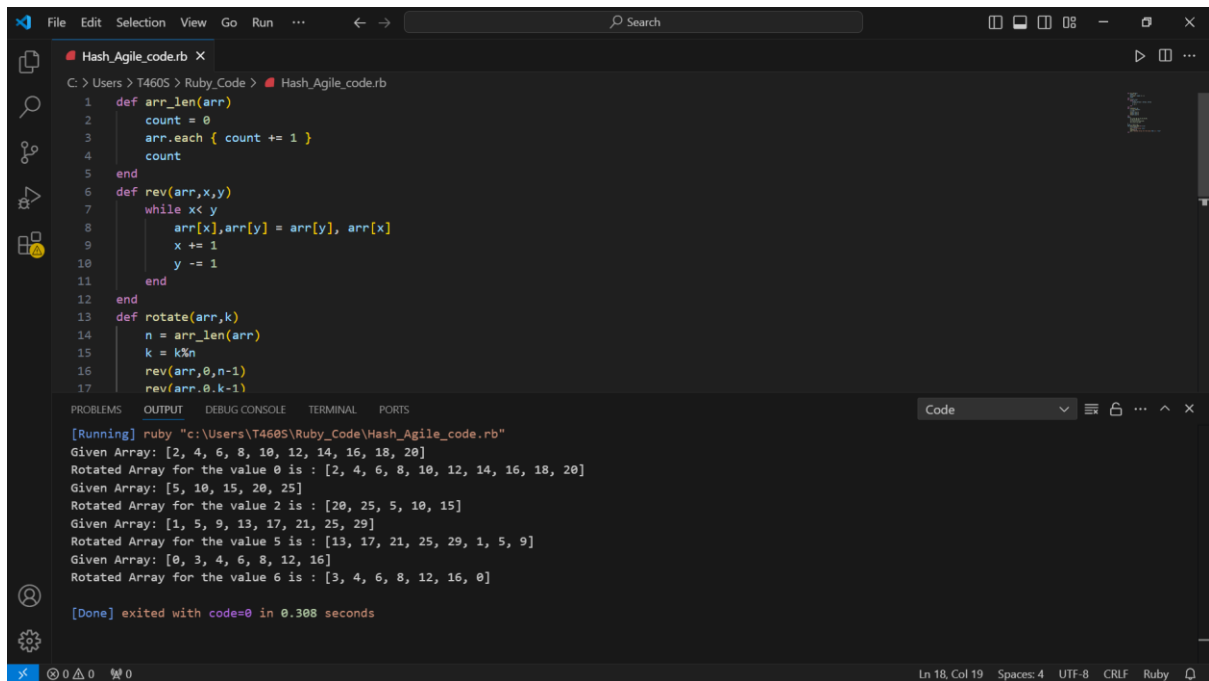
## Screenshots:

## Ruby Program in VS Code:



```
1 def arr_len(arr)
2   count = 0
3   arr.each { count += 1 }
4   count
5 end
6 def rev(arr,x,y)
7   while x<y
8     arr[x],arr[y] = arr[y], arr[x]
9     x += 1
10    y -= 1
11  end
12 end
13 def rotate(arr,k)
14   n = arr_len(arr)
15   k = k%n
16   rev(arr,0,n-1)
17   rev(arr,0,k-1)
18   rev(arr,k,n-1)
19 end
20 val=[
21   [2,4,6,8,10,12,14,16,18,20],
22   [5,10,15,20,25],
23   [1,5,9,13,17,21,25,29],
24   [0,3,4,6,8,12,16]
25 ]
26 k_val = [0,2,5,6]
27 val.each_with_index do |i,j|
28   k = k_val[j]
29   puts "Given Array: #{i}"
30   rotate(i,k)
31   puts "Rotated Array for the value #{k} is : #{i}"
32 end
```

## Output With Four Sample Inputs:



The screenshot shows a Ruby IDE with a file named `Hash_Agile_code.rb`. The code defines three methods: `arr_len`, `rev`, and `rotate`. The `rotate` method uses `arr_len` and `rev` to perform a rotation. The output window shows the execution of these methods on four different arrays, demonstrating the rotation of elements by a specified value.

```
1 def arr_len(arr)
2   count = 0
3   arr.each { count += 1 }
4   count
5 end
6 def rev(arr,x,y)
7   while x<y
8     arr[x],arr[y] = arr[y], arr[x]
9     x += 1
10    y -= 1
11  end
12 end
13 def rotate(arr,k)
14   n = arr_len(arr)
15   k = k%n
16   rev(arr,0,n-1)
17   rev(arr,0,k-1)
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS Code

```
[Running] ruby "c:\Users\T460S\Ruby_Code\Hash_Agile_code.rb"
Given Array: [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
Rotated Array for the value 0 is : [2, 4, 6, 8, 10, 12, 14, 16, 18, 20]
Given Array: [5, 10, 15, 20, 25]
Rotated Array for the value 2 is : [20, 25, 5, 10, 15]
Given Array: [1, 5, 9, 13, 17, 21, 25, 29]
Rotated Array for the value 5 is : [13, 17, 21, 25, 29, 1, 5, 9]
Given Array: [0, 3, 4, 6, 8, 12, 16]
Rotated Array for the value 6 is : [3, 4, 6, 8, 12, 16, 0]

[Done] exited with code=0 in 0.308 seconds
```

Ln 18, Col 19 Spaces: 4 UTF-8 CRLF Ruby