20. Sort the array so that whenever nums[i] is odd, i is odd, and whenever nums[i] is even, i is even. Return any answer array that satisfies this condition.

Program:

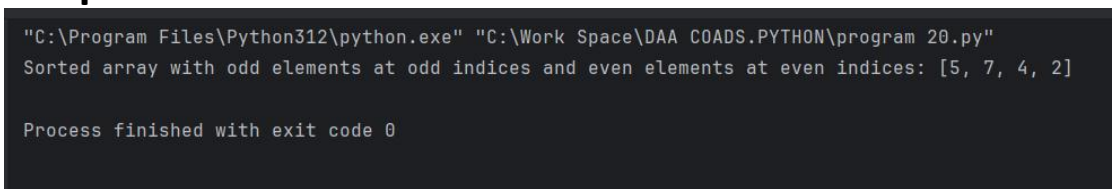
```
def sort_array_by_parity(nums):
    # Sort even elements at even indices
    even_idx = 0
    for i in range(len(nums)):
        if nums[i] % 2 == 0:
            nums[i], nums[even_idx] = nums[even_idx],
nums[i]
            even_idx += 2

    # Sort odd elements at odd indices
    odd_idx = 1
    for i in range(len(nums)):
        if nums[i] % 2 != 0:
            nums[i], nums[odd_idx] = nums[odd_idx], nums[i]
            odd_idx += 2

    return nums

# Example usage
nums = [4, 2, 5, 7]
sorted_nums = sort_array_by_parity(nums)
print("Sorted array with odd elements at odd indices
and even elements at even indices:", sorted_nums)
```

Output:



Time complexity:
O(1)