

solution

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MECE101 Resit Exam

Name:

Surname:

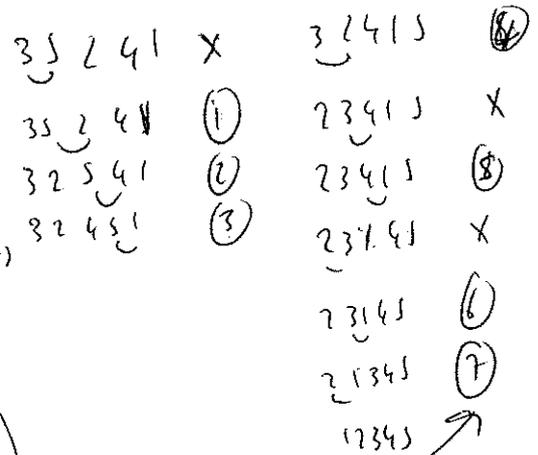
Number:

Q1) The MATLAB function code given below is a sorting (in Turkish sıralama) algorithm

```
function [vector_output, counter] = optimum_siralama_sinav(vector)
counter=0;
length_vector=length(vector);
for j=1:length_vector-1
for i=1:length_vector-j,
    if vector(i)>vector(i+1),
        degisen_vector=vector(i);
        vector(i)=vector(i+1);
        vector(i+1)=degisen_vector;
        counter=counter+1;
    else
    end
end
end
vector_output=vector
```

vector_output = [1 2 3 4 5]

counter



This function is called in MATLAB where vector=[3 5 2 4 1]

```
[vector_output, counter] = optimum_siralama_sinav(vector)
```

Find 'vector_output' and 'counter' (50 points)

Q2) The MATLAB function code is given below:

```
function output2=function_exam_q2(a,b,n)
for i=1:n,
    output2(i)=a-b;
    a=b;
    b=output2(i);
end
end
```

This function is called in MATLAB as

```
output2=function_exam_q2(5,2,5)
```

Find the value of 'output2' (50 points)

at start: $n=5$ $a=5$ $b=2$

counter = 7

output2 = [3 -1 4 -5 9]

$i=1$
 $output2(1) = 5 - 2 = 3$
 $a = 2$
 $b = 3$

$i=2$
 $output2(2) = 2 - 3 = -1$
 $a = 3$
 $b = -1$

$i=3$
 $output2(3) = 3 - (-1) = 4$
 $a = -1$
 $b = 4$

$i=4$
 $output2(4) = -1 - 4 = -5$
 $a = 4$
 $b = -5$

$i=5$
 $output2(5) = 4 - (-5) = 9$
 $a = -5$
 $b = 9$