

Quiz 1

100 points (10 points per problem)
(Version B)

Problem 1

Give the output of the following code:

```
X=(1:10)
for ii=1:10
    if ii<3
        X(ii:end)
    end
end
```

Problem 2

Write code that uses a 'for' loop to count how many integers between 1 and 20 can be divided by 3 with no remainder (e.g. the number '9').

Problem 3

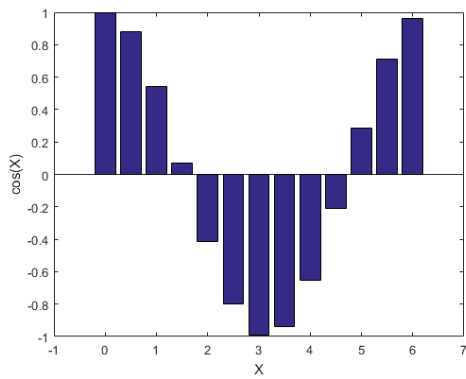
In general, which numerical integration method would give the most accurate result- Simpson's rule, Trapezoid, or MidPoint?

Fill in the missing code within the 'for' loop for the MidPoint method

```
NInterval = 100;
EndPoints = linspace(A, B, NInterval+1);
DeltaX = EndPoints(2) - EndPoints(1);
MidPoints = EndPoints(1:end-1) + DeltaX/2;
F=@(x) cos(x)
IntResult=0;
IntResultArray=zeros(NInterval, 1);
for nm=1:NInterval
    Area =
        IntResult = IntResult +Area;
IntResultArray(nm)=IntResult;
end
```

Problem 4

Write all the code needed to generate the plot below.



Problem 5

Write code that would generate an anonymous function that multiplies its input by 5.

Write code for an m-file function that would perform the same operation.

Problem 6

What are the outputs of the following commands:

```
A=linspace(0, 2, 5)
```

```
B=(0: 4: 8)
```

```
[C D]=meshgrid( (1: 3), (1: 2))
```

Problem 7

Fill in the missing code needed to generate the output below

```
clear
Cnt=0

while Cnt
    Cnt=Cnt+1;

    fprintf('          %d      ', Cnt, Total)
end
```

```
Current: 1 Total: 1
Current: 2 Total: 3
Current: 3 Total: 6
Current: 4 Total: 10
Current: 5 Total: 15
```

Problem 8

Give the output of the following code:

```
N=5;
M=zeros(N, 1);
for nn=1:N-3
    M(nn)=2*nn;
end
sum(M(M>0))
```

Problem 9

Write code using a 'switch-case' structure that performs identically to:

```
if myInt==3
    fprintf(' myInt=3\n')
elseif myInt==7
    fprintf(' myInt=7\n')
else
    fprintf(' Invalid Int\n')
end
```

Problem 10

For each case below, write the MATLAB code for indexing into the variable 'X' that would produce the result.

X =

| | | | | | | |
|----|----|-----|----|----|----|----|
| 49 | 63 | 24 | 53 | 59 | 70 | 74 |
| 41 | 27 | 27 | 34 | 21 | 28 | 14 |
| 59 | 92 | 25 | 87 | 41 | 15 | 81 |
| 8 | 63 | 99 | 34 | 78 | 38 | 73 |
| 39 | 4 | 100 | 78 | 91 | 98 | 85 |

ans =

| | | | | | | |
|----|----|----|----|----|----|----|
| 49 | 63 | 24 | 53 | 59 | 70 | 74 |
|----|----|----|----|----|----|----|

ans =

78

ans =

63
27
92
63
4

ans =

| | | | | |
|----|----|----|----|----|
| 92 | 25 | 87 | 41 | 15 |
|----|----|----|----|----|

ans =

| | |
|----|----|
| 27 | 27 |
| 92 | 25 |