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Section: BSCS- 6A

TASK 1

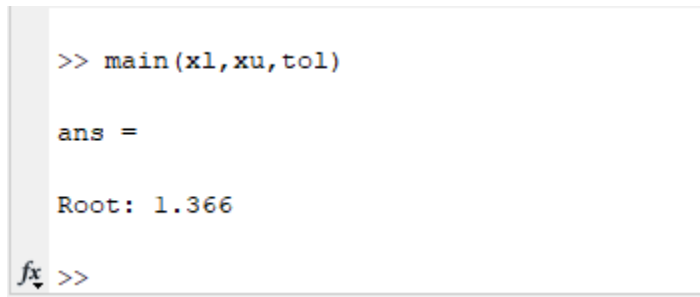
```
function a = main (xl , xu, tol )

if expression(xu)* expression(xl)<0
else
fprintf('Wrong Guess!Enter new guess\n');
xl=input('Enter lower guess:\n') ;
xu=input('Enter upper guess:\n');
end
for i=2:1000
xr=(xu+xl)/2;
if expression(xu)*expression(xr)<0
xl=xr;
else
xu=xr;
end
if expression(xl)*expression(xr)<0
xu=xr;
else
xl=xr;
end
xnew(1)=0;
xnew(i)=xr;
if abs((xnew(i)-xnew(i-1))/xnew(i))< tol,break,
end
end
a = ['Root: ', num2str(xr), ''];

function [y] = expression(in)

y = in^3 + 4*in^2 - 10;
```

Screenshot



```
>> main(xl,xu,tol)

ans =

Root: 1.366

fx >>
```

TASK 2

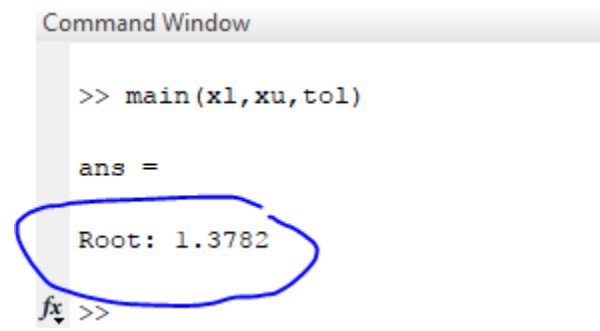
```
function a = main (xl , xu, tol )

if expression(xu)* expression(xl)<0
else
fprintf('Wrong Guess!Enter new guess\n');
xl=input('Enter lower guess:\n') ;
xu=input('Enter upper guess:\n');
end
for i=2:1000
xr=(xu+xl)/2;
if expression(xu)*expression(xr)<0
xl=xr;
else
xu=xr;
end
if expression(xl)*expression(xr)<0
xu=xr;
else
xl=xr;
end
xnew(1)=0;
xnew(i)=xr;
if abs((xnew(i)-xnew(i-1))/xnew(i))< tol,break,
end
end
a = ['Root: ', num2str(xr), ''];

function [y] = expression(in)

y = in^3 + in - 4;
```

Screenshot



A screenshot of the MATLAB Command Window. The window title is "Command Window". The command prompt shows the execution of the function `main(xl,xu,tol)`. The output is `ans =` followed by `Root: 1.3782`, which is circled in blue. At the bottom left, there is a small icon of a document with a downward arrow and the text `fx >>`.

```
Command Window

>> main(xl,xu,tol)

ans =
Root: 1.3782

fx >>
```