

## OUTPUT

### Q3B

iteration approximation

1	4.50000000
2	2.25000000
3	1.12500000
4	1.68750000
5	1.96875000
6	2.10937500
7	2.03906250
8	2.00390625
9	1.98632812
10	1.97753906
11	1.98193359
12	1.97973633
13	1.98083496
14	1.98028564
15	1.98056030
16	1.98069763

### Q3C

iteration approximation

1	0.50000000
2	0.25000000
3	0.12500000
4	0.18750000
5	0.15625000

6	0.17187500
7	0.16406250
8	0.16796875
9	0.16601562
10	0.16699219
11	0.16650391
12	0.16625977
13	0.16613770
14	0.16619873
15	0.16616821
16	0.16615295

```

function root = Bisect(xl, xu, eps, imax, f)
%UNTITLED Summary of this function goes here
% Detailed explanation goes here
i=1;
fl=f(xl);
fprintf( ' iteration approximation \n');
while i<= imax
    xr=(xl+xu)/2;
    fprintf( ' %6.0f %18.8f \n', i, xr );
    fr=f(xr);
    if fr == 0 || (xu-xl)/(xu+xl)<eps
        root = xr;
        return;
    else
        i = i+1;
    end
    if (fl*fr<0)
        xu=xr;
    else
        xl=xr;
        fl=fr;
    end
end
fprintf( ' failed to converge in %g iterations\n', imax );
end

```

%% Q3 C Assignment 3 CSC 349A

```

function volume = Vsemi(h)
% Detailed explanation goes here
L=10;
r=1;
V=12.4;
volume = L*(0.5*pi*r^2-r^3*asin(h/r)-h*(r^2-h^2)^0.5)-12.4;
end

```

```
%% Q3 b Assignment 3 CSC 349A
function volume = vLiquid(h)
r=3.5;
volume = (pi*h^2*(3*r-h))/3-35; %% subtracting 35 so that it becomes a "root"
end
```

t.m x Vsemi.m x vLiquid.m x untitled.m \* x +

```
%%
%% Q3 b
%diary assignment3Q3;
fprintf("Q3B\n");
Bisect(0,9,1e-4,20,@vLiquid);
fprintf("Q3C\n");
Bisect(0,1,1e-4,20,@Vsemi);
%diary off;
|
```