

EE 202 - Mathematical Techniques in Electrical Engineering

LAB 7

** Find solutions of the following questions in Matlab:

Question1:

Find y_n if $u(x+h) = 0.3u(x) + 1000$, $u(x_0) = y_0 = 1000$

```
n=1:2;
y=zeros(1,length(n));
y(1)=1000;

for i=1:length(n)
    y(i+1)=0.3*y(i)+1000;
end
yreal1=1;
for j=2:length(n)
    yreal1=yreal1+((0.3).^ (j-1));
end
yreal1=1000*yreal1;
yreal2=((0.3).^(length(n)))*(y(1));
yreal=yreal1+yreal2;
A=y(length(n)+1)
B=yreal
```

Question2:

Find y_n if $u(x+h) = 2u(x) + 2$, $u(x_0) = y_0 = 2$

```
n=1:3;
y=zeros(1,length(n));
y(1)=2;

for i=1:length(n)
    y(i+1)=2*y(i)+2;
end
yreal1=1;
for j=2:length(n)
    yreal1=yreal1+((2).^ (j-1));
end
yreal1=2*yreal1;
yreal2=((2).^(length(n)))*(y(1));
yreal=yreal1+yreal2;
A=y(length(n)+1)
B=yreal
```