```
% name-Amlan Shivam Nayak
% reg no.-19bcd7143
% date-18/10/19
clear all
clc
syms v(x) c b
ode = v*diff(v,x) + b*v^2 + c*x == 0;
vSol(x) = dsolve(ode)
vSol(0)
```

```
vSol(x) =

  ((exp(-2*b*x)*(C3 + c*exp(2*b*x) - 2*b*c*x*exp(2*b*x)))/
(2*b^2))^(1/2)
 -((exp(-2*b*x)*(C3 + c*exp(2*b*x) - 2*b*c*x*exp(2*b*x)))/
(2*b^2))^(1/2)


ans =

  ((C3 + c)/(2*b^2))^(1/2)
 -((C3 + c)/(2*b^2))^(1/2)
```

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```
% name-Amlan Shivam Nayak
% reg no.-19bcd7143
% date-18/10/19
clear all
clc
syms i(t) r l v e
l=0.5
e=20
r=100
f=e/l==(r/l)*i + diff(i,t)
F(t)=dsolve(f,i(0)==0)
F(0.5)
```

```
l =

    0.5000


e =

    20


r =

   100


f(t) =

40 == 200*i(t) + diff(i(t), t)


F(t) =

1/5 - exp(-200*t)/5


ans =

1/5 - exp(-100)/5
```

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