

1. Write Scilab code for performing Gaussian elimination without pivoting to solve system $A\vec{x} = \vec{b}$. Assume the inputs are a square matrix A and vector \vec{b} .

```
n=length(b)
```

```
// forward reduction
```

```
for s=1:n-1
```

```
    for i=s+1:n
```

```
        mult= A(i,s) / A(s,s);
```

```
        A(i,:)= A(i,:)- mult*A(s,:);
```

```
        b(i)= b(i)- mult*b(s);
```

```
    end
```

```
end
```

```
// backward substitution
```

```
for k=n:-1:1
```

```
    temp=0;
```

```
    for j=k+1:n
```

```
        temp = temp + A(k,j) * x(j)
```

```
    end
```

```
    x(k)= (b(k)-temp)/A(k,k);
```

```
end
```

```
Return x.
```