

Vector Patch

```
>>
>> t = (0:1:100);
>>
>> F = sin(t).^2;
>>
>> figure(1);
>> plot(t(1:50),F(1:50));
>>
```

```
>> whos
      Name      Size      Bytes  Class

      F         1x101      808    double array
      t         1x101      808    double array
```

Grand total is 202 elements using 1616 bytes

```
>>
```

Tensor Patches

```
>>
>> A = ones(100,100);
>> B = A(3,:);
>> C = A(:,21);
>> whos
```

Name	Size	Bytes	Class
A	100x100	80000	double array
B	1x100	800	double array
C	100x1	800	double array
F	1x101	808	double array
t	1x101	808	double array

Grand total is 10402 elements using 83216 bytes

```
>>
```

Check

```
sum
diff
rand
```

Tensor Length

```
>>
>> A = ones(10,20);
>> N1 =length(A(1,:));
>> N2 = length(A(:,1));
>>
>> N1
```

```
N1 =
```

```
    20
```

```
>> N2
```

```
N2 =
```

```
    10
```

```
>> whos
```

Name	Size	Bytes	Class
A	10x20	1600	double array
N1	1x1	8	double array
N2	1x1	8	double array

Grand total is 202 elements using 1616 bytes

```
>>
```

To do

- 1) $t = (0:0.1:10)$
- 2) $F = \exp(\sin(t^2))$
- 3) $G = \tan(\sin(t^2))$
- 4) Plot $F(t)$: $t=(0-5)$
- 5) Plot $G(t)$: $t=(0-7)$
- 6) $H(t) = \text{Integral } F(t), t_{\min}=0, t_{\max} = t;$
- 7) Plot $H(t)$: $t=(0-10)$
- 8) $H1(t) = H(t)\cos(t) + 0.01*(\text{random number } [0-1])$
- 9) $H2(t) = d/dt H1(t)$
- 10) Plot on single graph:
 - $F(t)$: $t=0-10$ (blue)
 - $H(t)$: $t=0-10$ (red)
 - $H2(t)$: $t=0-10$ (green)