Tribhuvan University
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**Lab Report on :**
Signals

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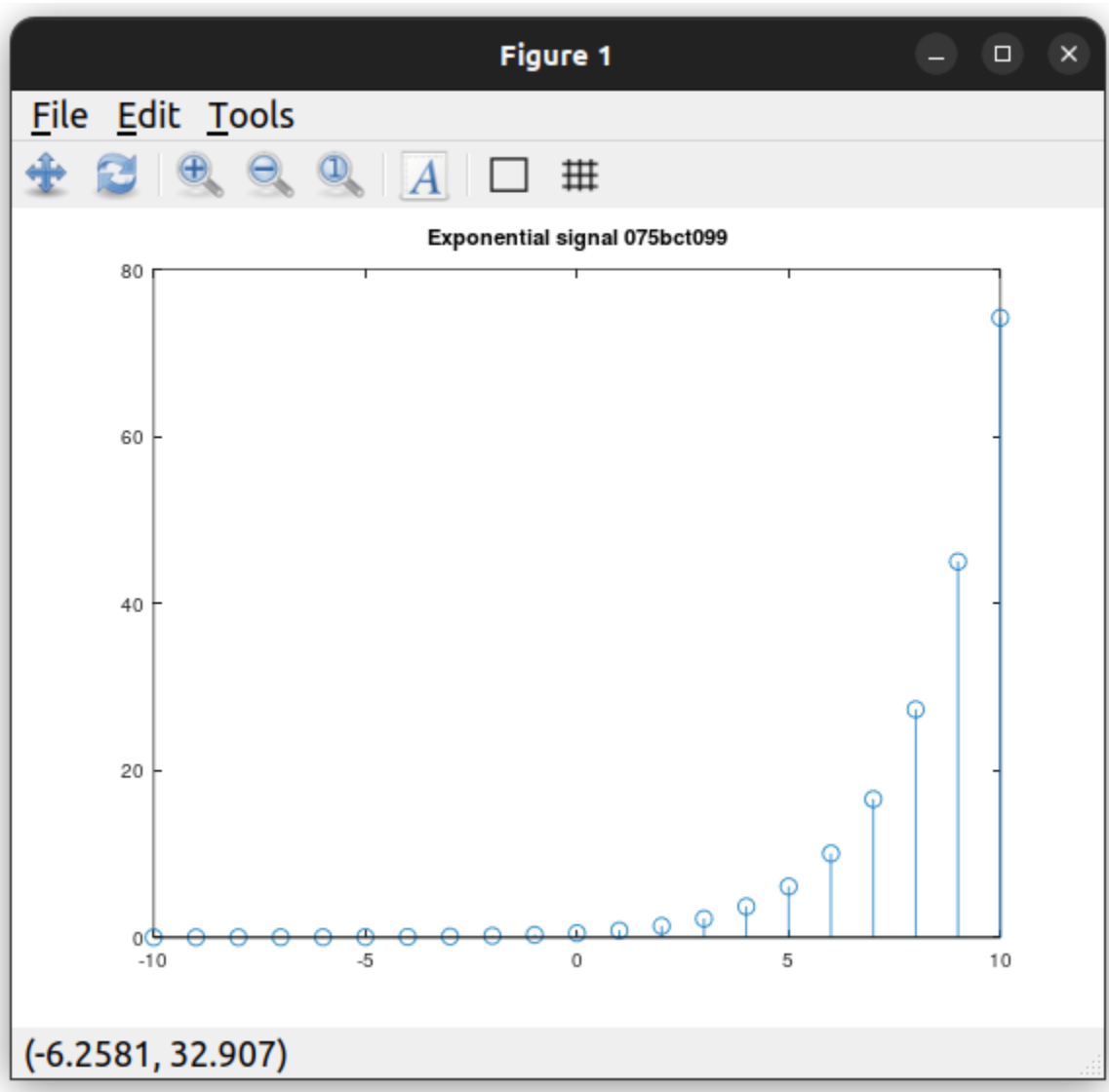**Submission Date:**
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# DSAP Lab1 Signals

## a) Exponential signal

```
clc;

n= (-10:10);
c = input("c = ");
a = input("a =  ");
y = c*exp(a*n);
stem(n,y);
title('Exponential signal 075bct099')
```
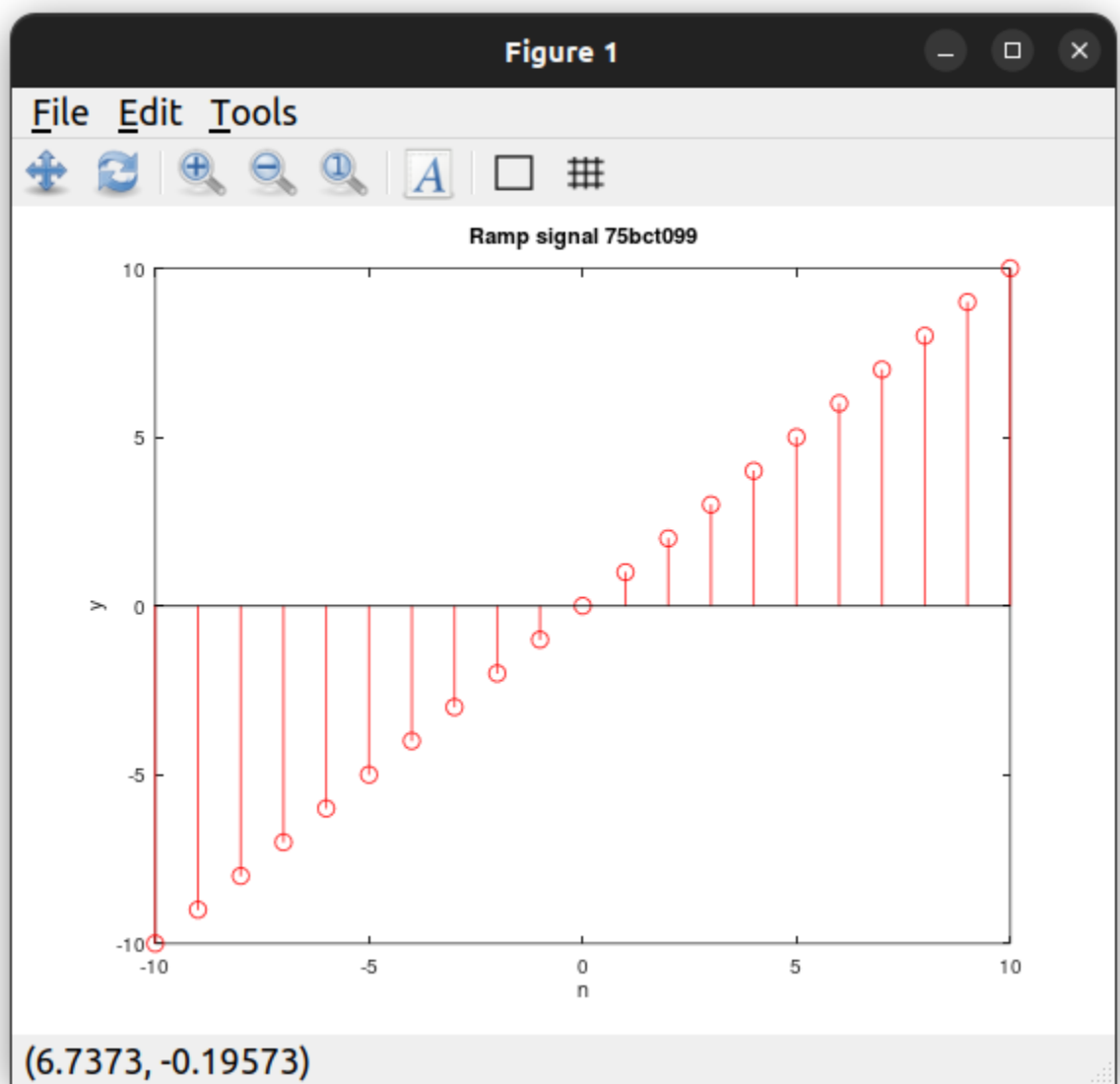
Output:

**b) Ramp signal**

Code:

```
clc;
n = -10:10;
y = n;
stem(n,y , 'r');
xlabel("n");
ylabel("y");
title("Ramp signal 75bct099");
```
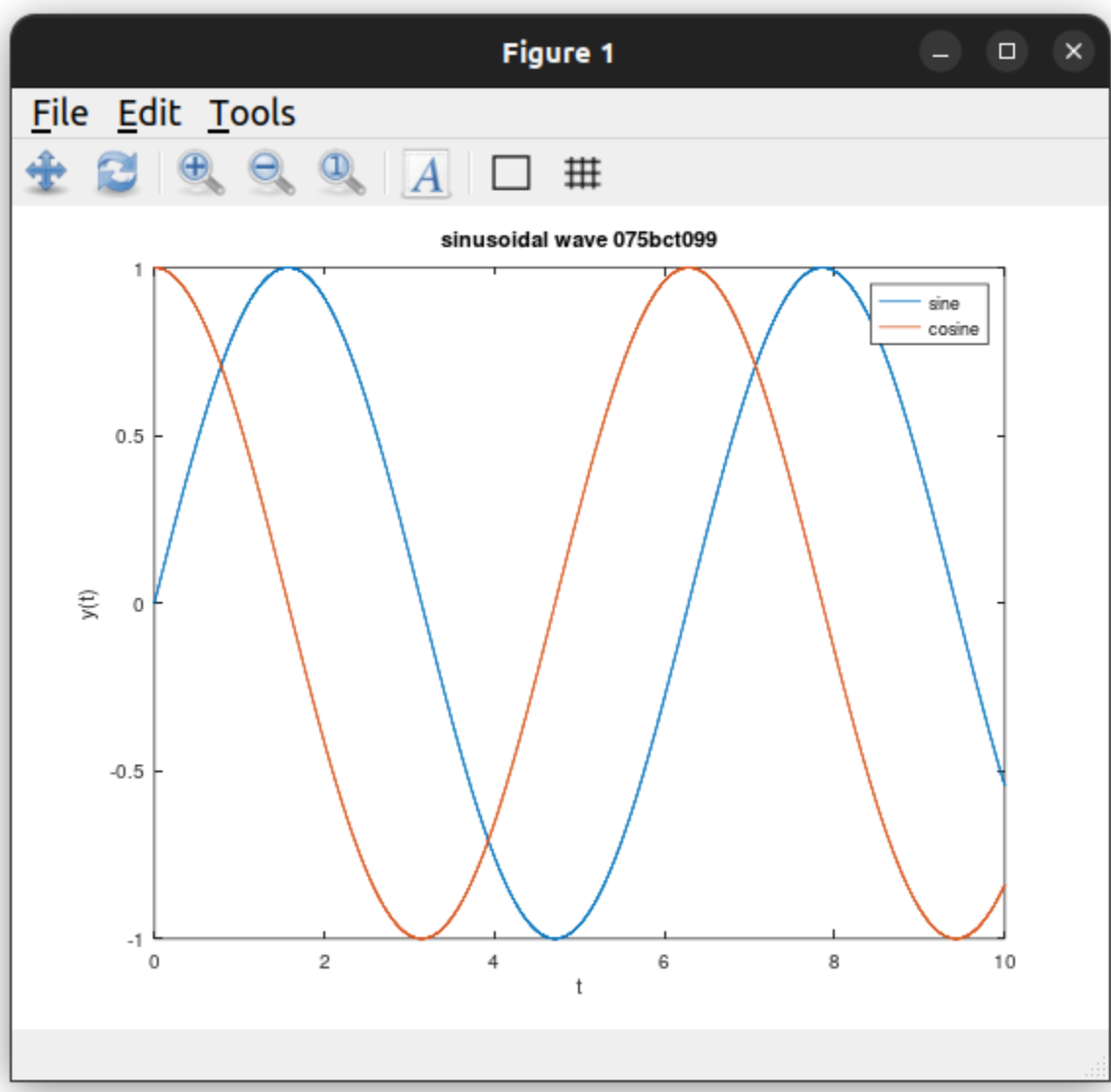
Output:



**c) Sinusoidal**

**Code:**

```
t = (0:0.001:10);
```

```
x = sin(t);
plot(t,x);
xlabel('t');
ylabel('x(t)');
title('sine wave');
hold on;

y =  cos(t);
plot(t,y);
xlabel("t");
ylabel("y(t)");
title("cosine wave");
legend("sine", "cosine");
hold off;
```

**Output**



**Discrete signals**
**Code**:

```
clc;
t = (-50:50);
x = sin(t);
stem(t,x);
xlabel('n');
ylabel('x[n]');
title('sine discrete');
hold on;

y =  cos(t);
```
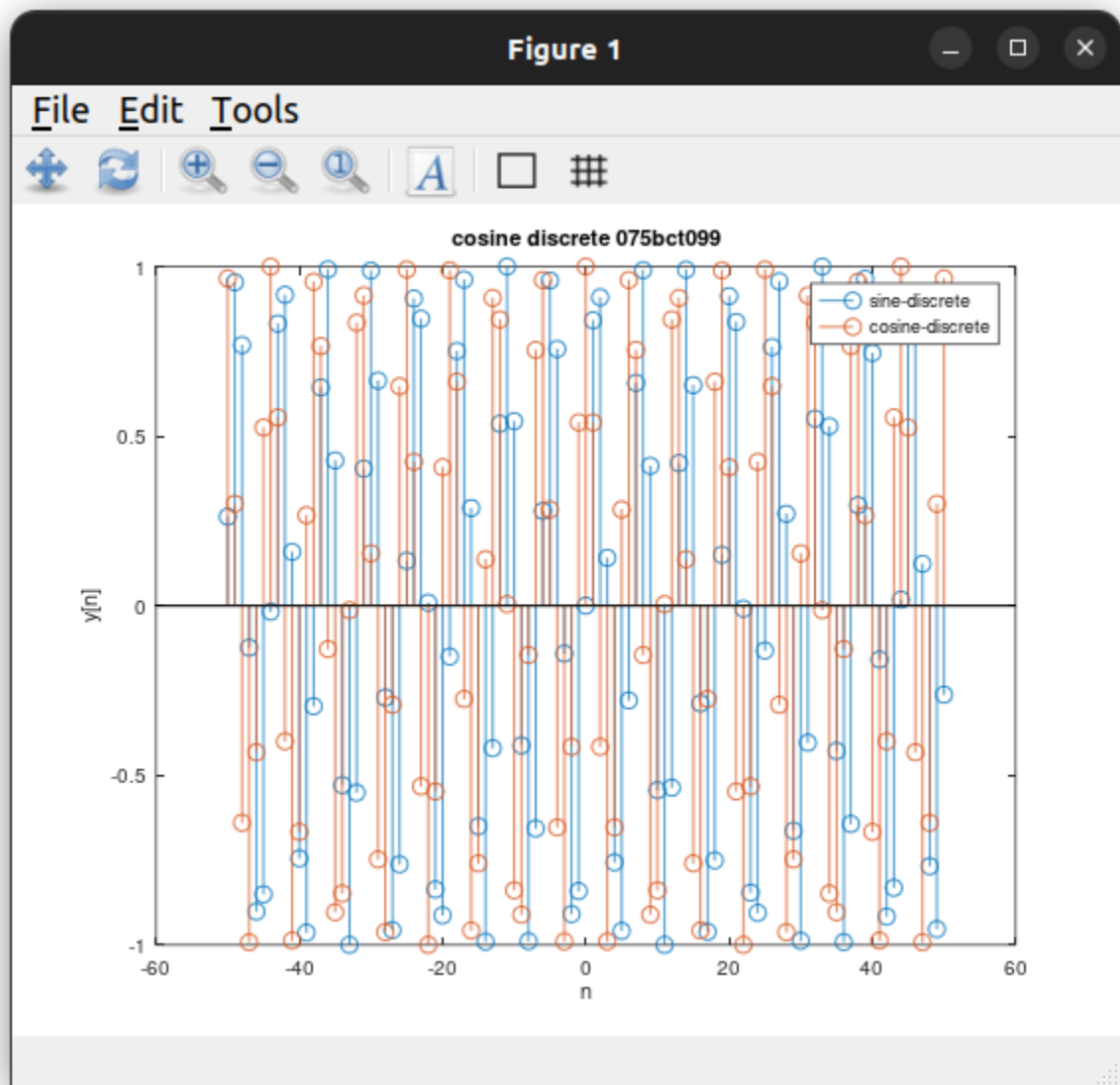
```
stem(t,y);
xlabel("n");
ylabel("y[n]");
title("cosine discrete");
legend("sine-discrete", "cosine-discrete");
hold off;
```

Output:



### d) Unit Pulse
**Code:**
```
hold on ;
n = -10:10;
for(n = -10:1:10)
  if(n=0)
    stem(n,1);
```
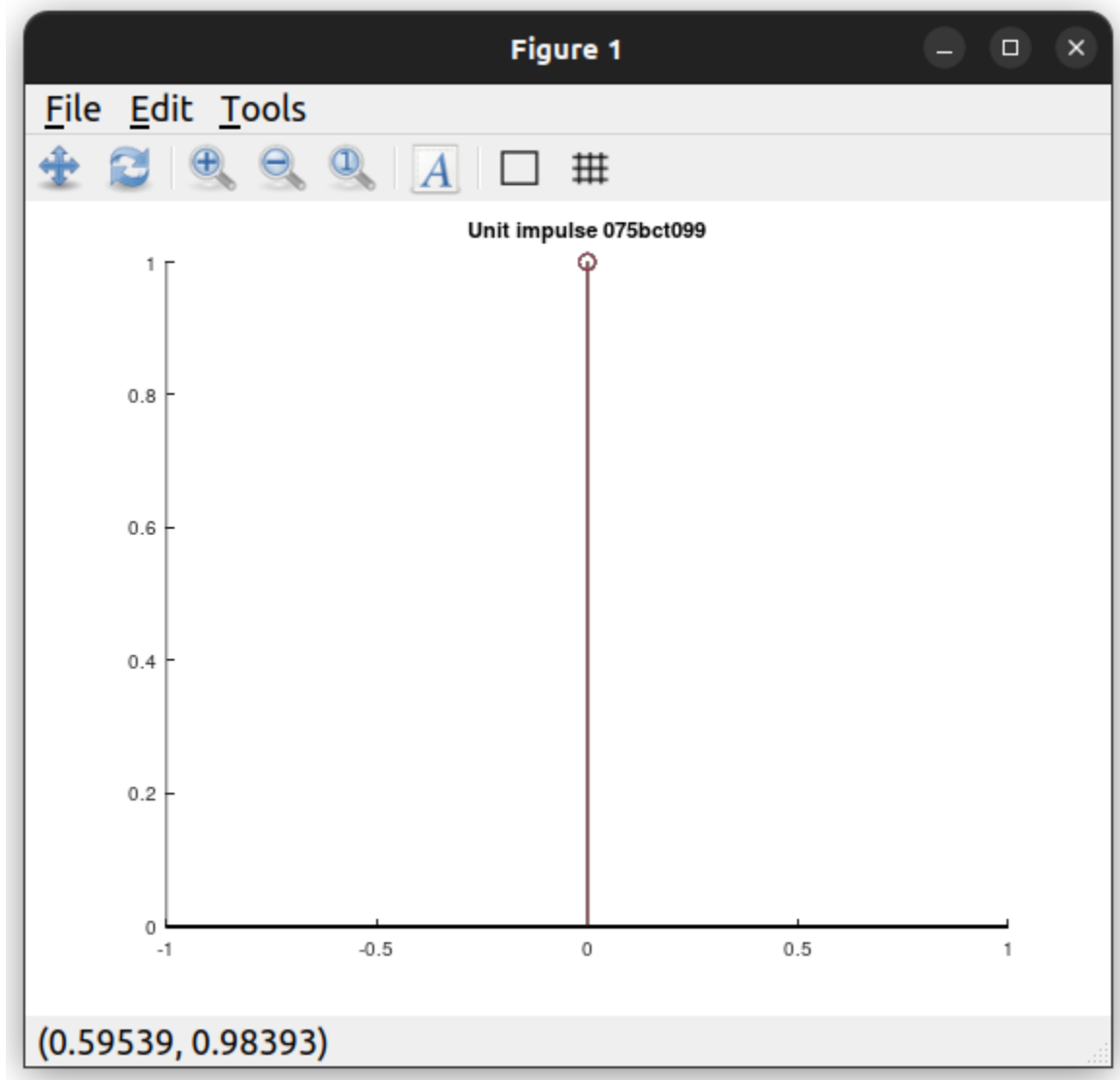
```
  else
    stem(n,0);
  end
end
hold off;
```

**Output:**



Unit impulse 075bct099

(0.59539, 0.98393)

**e)  Unit Pulse**

**Code:**

```
hold on ;
n = -10:10;
for(n = -10:1:10)
  if(n<0)
    stem(n,0);
  else
```

```
    stem(n,1);
  end
end
hold off;
```

**Output:**