

1- For loop:

$$x + x^2/2 + x^3/3 + \dots + x^{50}/50 \quad x = 2.5$$

```
s=0;
x=5;
for i = 1:1:n
    s = s + x^i / i;
end
disp(s);
```

using while loop:

```
s=0;
x=5;
i=1;
while(i<=n)
    s = s + x^i / i;
    i = i + 1;
end
disp (s);
```

$$1 - x + x^2 - x^3 + \dots + x^{10}$$

```
x^i
s=0;
x=5;
sign = 1;
for i = 1:n
    s = s + sign* x^i;
    sign = -sign;
end
disp(s);
```

Series summation using vectors (vectorization)

$$1 - \frac{1}{2} + \frac{1}{3} - \frac{1}{4} + \dots + -\frac{1}{50}$$

```
x = 1:2:49;
```

```
y = 2:2:50;
```

```
s = sum(1./x) - sum(1./y);
```

factorial (n) = $1*2*3*4*\dots*n$

```
function y = factorial(n)
```

```
    fact = 1;
```

```
    for i = 1:n
```

```
        fact = fact * i;
```

```
    end
```

```
    y = fact;
```

```
end
```

switch - case:

write a script file to display the month name given the month number.

Using if - else

```
month = input('Enter month number: ');
```

```
if (month==1)
```

```
    disp('January');
```

```
elseif (month==2)
```

```
    disp (february);
```

```
    .
```

```
    .
```

```
    .
```

```
else
```

```
disp('invalid month');
```

```
end
```

using switch case:

```
month = input('Enter month number: ');
switch month
case 1
    disp('January');
case 2
    disp('february');
.
.
.
otherwise
disp('invalid month');
end
```

Given values of a variable x start with 0 to 10 with step 0.1

Graph the exponential distribution function with mean=2

$F(x) = 1/B \exp(-x/B)$;

Label x-axis as x

Label y-axis as f(x)

Label the point (0,0) as origin

Use "Exponential distribution" as a title for the graph

$F(x) = 0.5 \exp(-0.5x)$

x = 0:0.1:10;

f = 0.5*exp(-0.5*x);

plot(x,f),grid

xlabel('x'), ylabel('f(x)')

text(0,0,'origin')

title('Exponential distribution');