Assignment-3:

1. Write a function file to calculate combination, it will take two arguments n & r to return ${}^{n}C_{r}$
2. Use that function to calculate the series sum $S = {}^{100}C_{0} + {}^{100}C_{1} + {}^{100}C_{2} + \ldots\ldots\ldots + {}^{100}C_{100}$

Solution:

To make a function file of name comb that will take two inputs and one output.

In the command window type,

edit comb

That will create a matlab file as comb.m

Then in the blank file write the following code

function output=comb(n,r)

rx=1:r;

npr=1;

for i=1:r

npr=npr*(n-i+1);

end

ncr=npr/prod(rx);

output=ncr;

Save fact function file. It is now ready. You can call it now in any script.

```
n=100;
%k varies from 0 to 100
s=0;
for k=0:100
    s=s+comb(n,k);
end
s
```