Exercise 1

```
rA1=[1,4,2];rA2=[2,5,8];rA3=[3,6,9];A=[rA1;rA2;rA3]

A =

     1     4     2
     2     5     8
     3     6     9

rB1=[1,2,3];rB2=[4,5,6];rB3=[7,8,9];B=[rB1;rB2;rB3]

B =

     1     2     3
     4     5     6
     7     8     9

rb1=[4];rb2=[23];rb3=[27];b=[rb1;rb2;rb3]

b =

     4
    23
    27

rc=[4,3,2];c=[rc]

c =

     4     3     2

rd1=[1];rd2=[2];rd3=[3];d=[rd1;rd2;rd3]

d =

     1
     2
     3
```

Exercise 1A

```
A*B

ans =

    31    38    45
    78    93   108
    90   108   126

B*A

ans =

    14    32    45
    32    77   102
    50   122   159
```

```
c*B

ans =

    30    39    48

A*d

ans =

    15
    36
    42
```

Exercise 1B

```
C=[A B]

C =

     1     4     2     1     2     3
     2     5     8     4     5     6
     3     6     9     7     8     9

D=[B;c]

D =

     1     2     3
     4     5     6
     7     8     9
     4     3     2
```

Exercise 1C

```
x=A\b

x =

     2
    -1
     3
```

Exercise 1D

```
A(2,3)=0

A =

     1     4     2
     2     5     0
     3     6     9
```

Exercise 1E

```
A_ext=A(3,:)
```

```
A_ext =

     3     6     9
```

Exercise 1F

```
B(3,:)=[]

B =

     1     2     3
     4     5     6
```

Exercise 2A

```
Nterms(3,(1/2),10)

NTerms =

    8.9971


ans =

    8.9971
```

Exercise 2B

```
Summing(3,(1/2),10)

ans =

    5.9941
```

Exercise 3A

```
count=1;
k = 2
for i=1:k:19;
     count = (count * k);
end
count

k =

     2


count =

        1024
```

Exercise 3B

```
prod(1:2:19)

ans =

   654729075
```

Exercise 4

```
array=[];
i=1;
v=2^i;
while v<1000;
      array=[array v]
      i=i+1;
      v = 2^i
end
array

array =

     2


v =

     4


array =

     2     4


v =

     8


array =

     2     4     8


v =

    16
```

```
array =

     2     4     8    16

v =

    32

array =

     2     4     8    16    32

v =

    64

array =

     2     4     8    16    32    64

v =

   128

array =

     2     4     8    16    32    64   128

v =

   256

array =

     2     4     8    16    32    64   128   256

v =
```

```
   512

array =

     2     4     8    16    32    64   128   256   512

v =

        1024

array =

     2     4     8    16    32    64   128   256   512
```

Exercise 5

```
Piecewise(1)

ans =

     2

Piecewise(4)

ans =

   54.5982

Piecewise(7)

ans =

  1.0966e+003

Piecewise(10)
the function is undefined at x = 10
```