Md. Fazlul Karim
ID – 2014182643
Sec - 01

Ans no – 1

Single: single(X) converts the vector X to single precision. X can be any numeric object (such as a DOUBLE).

Double: double(X) returns the double precision value for X. If X is already a double precision array, double has no effect.

Format: format Set output format. format with no inputs sets the output format to the default appropriate for the class of the variable. For float variables, the default is format SHORT.

Format long: Scaled fixed point format with 15 digits for double and 7 digits for single.

str2num: str2num Convert character array or string scalar to numeric array. X = str2num(S) converts a character array or string scalar representation of a matrix of numbers to a numeric matrix.

Num2str: num2str Convert numbers to character representation.

Int2str: int2str Represent integers as character array. S = int2str(X) rounds the elements of numeric matrix X to integers and converts the result into a character array that represents the numbers.

mat2str Represent matrix as character vector in MATLAB syntax. STR = mat2str (MAT) represents the matrix MAT as a character vector so that EVAL(STR) produces the original matrix (to within 15 digits of precision). Conversions of non-scalar matrices contain brackets [].

Reshape: reshape Reshape array. reshape (X, M, N) or reshape (X, [M, N]) returns the M-by-N matrix whose elements are taken column wise from X. An error results if X does not have M*N elements.

sort: Sort in ascending or descending order. B = sort(A) sorts in ascending order.

Ans No – 2

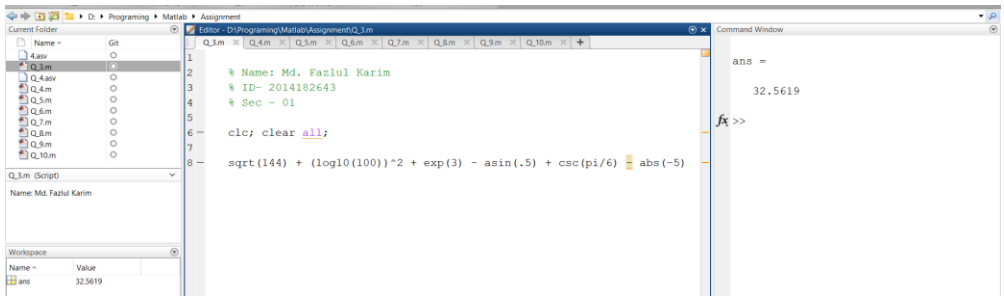
i. round(X) rounds each element of X to the nearest integer. The floor function rounds values to the nearest integer toward negative infinity.

ii. The mod function produces a result that is either zero or has the same sign as the divisor. The rem function produces a result that is either zero or has the same sign as the dividend. Another difference is the convention when the divisor is zero.

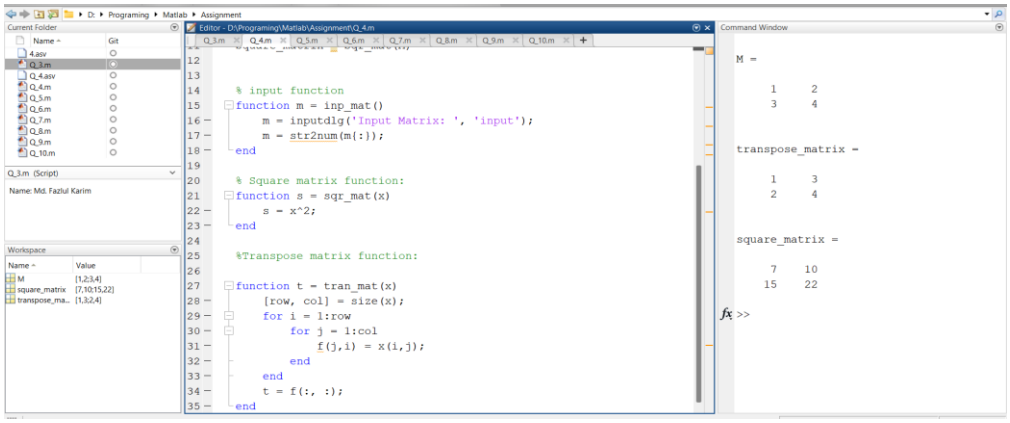
iii. Mean: It will return the mean of the elements of A along the first array.

Median: It will return the median value.

Ans No – 3

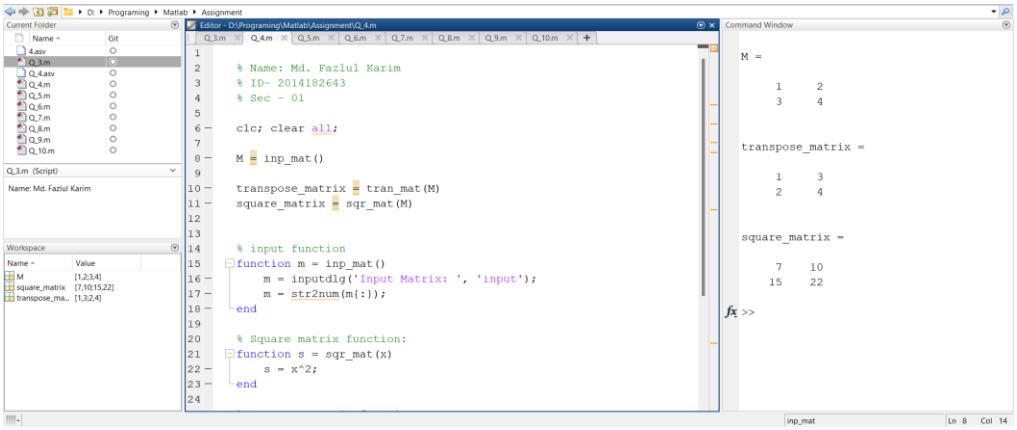


Ans No – 4



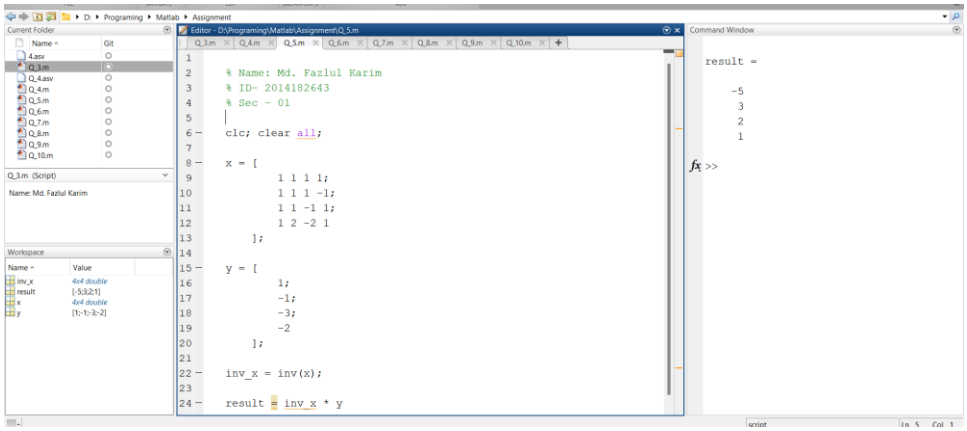
(a)

1

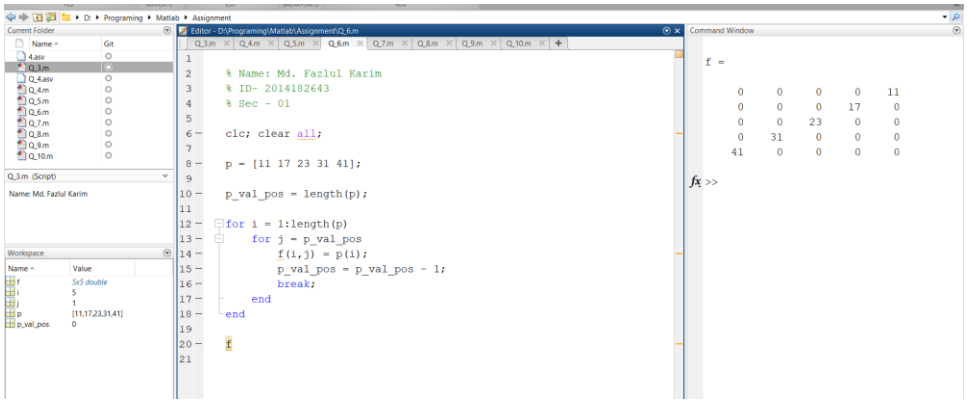


(b)

Ans No – 5



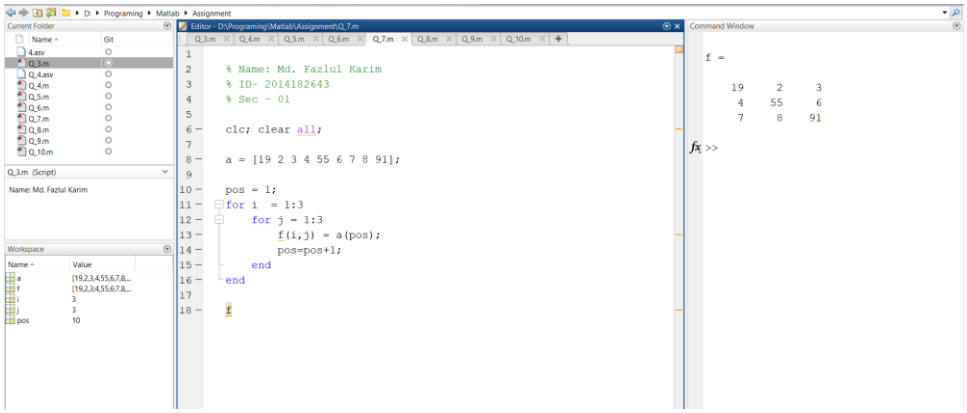
Ans No – 6



```
% Name: Md. Fazlul Karim
% ID- 2014182643
% Sec - 01

clc; clear all;

p = [11 17 23 31 41];

p_val_pos = length(p);

for i = 1:length(p)
    for j = p_val_pos
        f(i,j) = p(i);
        p_val_pos = p_val_pos - 1;
        break;
    end
end

f
```

```
f =

     0     0     0     0    11
     0     0     0    17     0
     0     0    23     0     0
     0    31     0     0     0
    41     0     0     0     0

fx >>
```

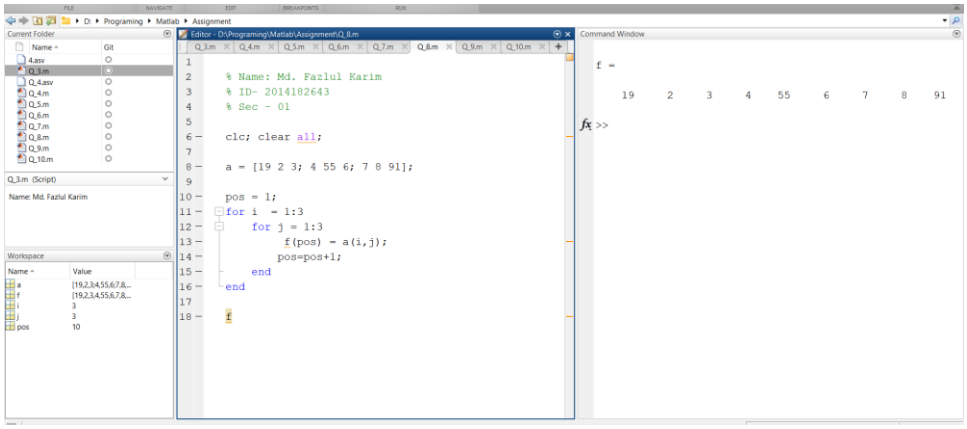
Ans No – 7



```
% Name: Md. Fazlul Karim
% ID- 2014182643
% Sec - 01

clc; clear all;

a = [19 2 3 4 55 6 7 8 91];

pos = 1;
for i  = 1:3
    for j = 1:3
        f(i,j) = a(pos);
        pos=pos+1;
    end
end

f
```

```
f =

    19     2     3
     4    55     6
     7     8    91

fx >>
```

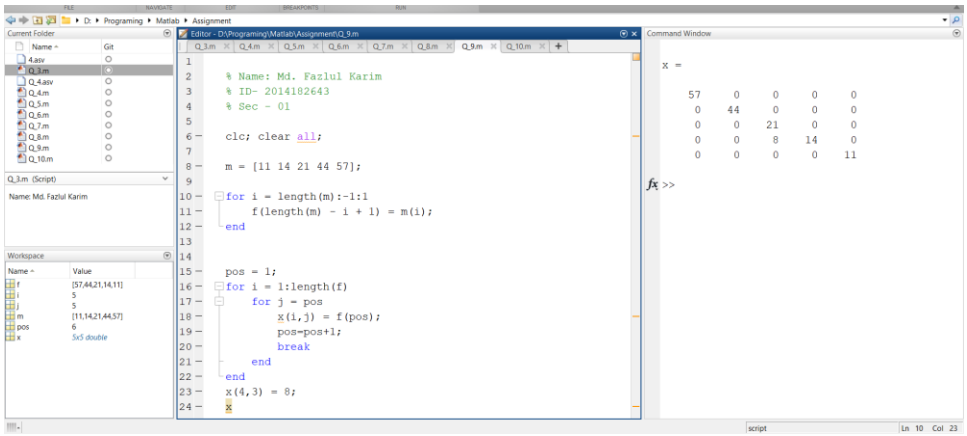
Ans No – 8



```
% Name: Md. Fazlul Karim
% ID- 2014182643
% Sec - 01

clc; clear all;

a = [19 2 3; 4 55 6; 7 8 91];

pos = 1;
for i  = 1:3
    for j = 1:3
        f(pos) = a(i,j);
        pos=pos+1;
    end
end

f
```

```
f =

    19     2     3     4    55     6     7     8    91

fx >>
```

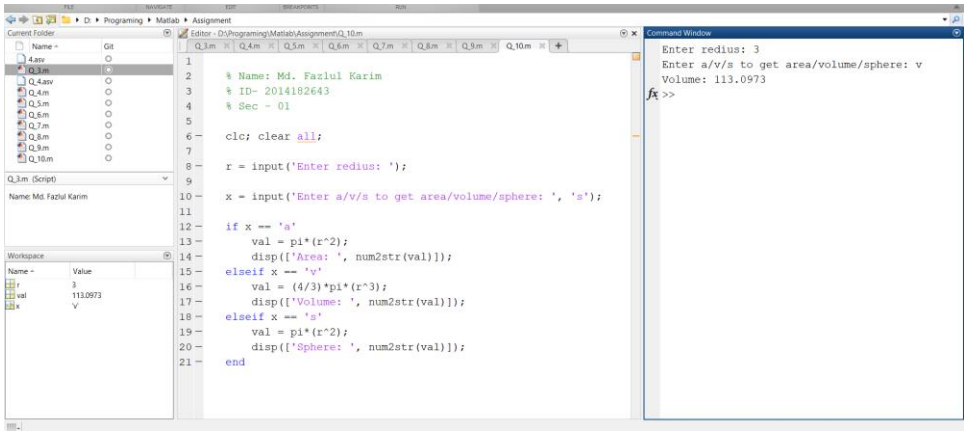
Ans No – 9



```
% Name: Md. Fazlul Karim
% ID- 2014182643
% Sec - 01

clc; clear all;

m = [11 14 21 44 57];

for i = length(m):-1:1
    f(length(m) - i + 1) = m(i);
end


pos = 1;
for i = 1:length(f)
    for j = pos
        x(i,j) = f(pos);
        pos=pos+1;
        break
    end
end
x(4,3) = 8;
x
```

```
x =

    57     0     0     0     0
     0    44     0     0     0
     0     0    21     0     0
     0     0     8    14     0
     0     0     0     0    11

fx >>
```

Ans No – 10



```
% Name: Md. Fazlul Karim
% ID- 2014182643
% Sec - 01

clc; clear all;

r = input('Enter redius: ');

x = input('Enter a/v/s to get area/volume/sphere: ', 's');

if x == 'a'
    val = pi*(r^2);
    disp(['Area: ', num2str(val)]);
elseif x == 'v'
    val = (4/3)*pi*(r^3);
    disp(['Volume: ', num2str(val)]);
elseif x == 's'
    val = pi*(r^2);
    disp(['Sphere: ', num2str(val)]);
end
```

```
Enter redius: 3
Enter a/v/s to get area/volume/sphere: v
Volume: 113.0973
fx >>
```