

Paper = "Introduction to Computer Programming"

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Q1(A) What are the Basic Plots and Graphs of Matlab?

Ans:⇒ following ~~is~~ Table describes basic plots and graphs.

box - Axis border

errorbar - Plots error bars

along Curve hold - Retains

Current graph while adding

new graphs.

line - creates line object

LineSpec (Line Specification).

Syntax of Line Specification String.

(log-log) - Log to log scale plot

(plot) - 2-D line plot.

(plot3) - 3-D line plot.

Plotyy - 2-D line plots

with x-axis on both left

and right side

Polar - Polar Coordinate Plot

semilogx - Semilogarithmic Plot.

semilogy - Semilogarithmic Plot

subplot - Creates axis in ~~the~~ tiled positions.

xlim - Sets or queries x-axis limits

ylim - Sets or queries y-axis limits

zlim - Sets or queries z-axis limits.

Q3(a) What are the memory management functions in matlab?

- ① Clear - Removes variables from memory
- ② Pack - Saves the existing variables to disk, and then reloads them contiguously.
- ③ Save - Selectively persists variables to disk.

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- ④ load - Reloads a data file saved with the save function
- ⑤ quit - Exits Matlab and returns all allocated ~~memory~~ memory to the system.

Q3B.

Ans: Given two points  $(x_1, y_1)$  and  $(x_2, y_2)$

$$\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$$

is the MATLAB program to determine the distance between two points specified by the

= input Enter the first point

= P1 (1);

= P1 (2);

reads the first point

= input Enter the second point

= P2 (1);

P2 (2);

reads the second point

sqrt  $(x_1 - x_2)^2 + (y_1 - y_2)^2$ ;

Calculation the distance between

and prints the distance between t

prints the distance between t

Q4A what do you mean by M-files in matlab?

Ans An m-file or Script file is a simple text file where you can place MATLAB Commands when the file is run MATLAB reads the commands and executes them exactly as it would if you had typed each command sequentially at the MATLAB prompt. All m-file names must end with the extension m (e.g. test.m). If you create a new m-file with the same name as an existing m-file MATLAB will choose the one which appears first in the path order. Type help path in the command window for more information. To make life easier choose a name for your m-file which doesn't already exist. To see if a filename m- already exists type help filename at the MATLAB prompt.

Q

Ans % Choose a range for x and use  
500 points

```
x = linspace(-20, 20, 500);
```

```
% Create y
```

```
y = x .* cos(x) .* sin(x);
```

```
% plot The function.
```

```
plot(x, y, 'b-', Linewidth 2);
```

```
grid on;
```

```
xlabel('x', Fontsize, 15);
```

```
ylabel('y', Fontsize 15);
```

```
title('y = x .* sin(x)', Fontsize  
, 15); axis equal;
```

```
% Make a black line at the  
x and y axes
```

```
line(xlim, (0,0), Colour, 'k',  
Linewidth, 2);
```

```
line([0,0], ylim, Colour, 'k',  
Linewidth, 2);
```

Q

Ans. function MATLAB not associated to any particular toolbox help dist or cordist will brings it up.

There are many cell syntax of dist.

1) 1. Through the op wants the Euclidean distances between two point  $(x_1, y_1)$ ,  $(x_2, y_2)$ , which should be  $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$ .

dist () can calculate the Euclidean distance of multiple point at once it can certainly be used to calculate the distance for two point although it seems to be an overkill because the equation  $\sqrt{(x_1 - x_2)^2 + (y_1 - y_2)^2}$  can do that too.

Since the op asked for a MATLAB function I thought this is the one

`pos = rand(2,5)`

`D = dist(pos)`.



Q4B

Ans Considering how Simple This Conversion is you could write it yourself in no more than twenty seconds considering that this question has been asked many time on this forum it would take you no more than ten seconds to find a working solution to this question why should we do your homework for you if you obviously do not want to put in any effort learning or searching for information if you really want to learn how to use use MATLAB then you need to put in some effort yourself Anyone who simply gives you the code is not helping you but makes your learning harder.