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% Example Problems for Week 1 Material:


%% Example 1: Find the Error
clc; clear;

x = 1;
x = 2;
x = 3;
x = 4
x = 5 + x;


%% Example 2: Find the Error
clc; clear;

x = 1; y = 6; z = 7;
add = x .+ y+ z;
disp(add)


%% Example 3: Find the Error
clear; clc;

disp('This is a string.')
disp(and this is a string)
disp('Was that last display correct?')
disp what about this one?


%% Example 4: Find the Error
clc; clear;

x = input('x = ');
disp(x)
disp(sin(x))
disp([sin(x), x])
disp([sin (x), x])


%% Example 5: Find the Error
clc; clear;

yes = 1; no = 0;
yes = no;
no = yes;
of_course = yes + no;
yes = yes'
no = no'; of_course = of_course';
of_course = 'of_course';
no_times_no = no(no)
```

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%% Example 6: Write the Output (The code is already correct)
% Show spaces with an underscore "_"

clc; clear;

x = 1; y = 2; z = -3; x = 3;
p = x+y + z;
disp ( ' Answer ' )
disp(['The value for p = ', num2str(p)])


%% Example 7: Write the Output (The code is already correct)
clc; clear;

input = ('Yes?');
input = ('No?');
disp('Is this the same as using the input command?')
disp('Will this code run?')


%% Example 7: Write code for the following problem

% Eric has some figs. Patrick likes figs (a lot), and Eric knows. He
% wants to make a code that will allow him to keep track of how many
% figs that he (Eric) has. Suppose Eric starts with 60 figs
% He wants his code to ask him how many figs he gave to Patrick, and
% then display how many figs he has left. Write a code that will
% accomplish this.



%% Example 8: Write code for the following problem

% A ball is launched at a user defined angle theta with a user defined
% speed v_0. Create a code that will display the range of the ball.
% The formula for range is the following:


%        R = (v^2 * sin(2*theta)) / g
```

ANSWERS FOR 1 – 6 (PLEASE DON'T LOOK UNTIL YOU ARE DONE)

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%% Example 1: Find the Error
clc; clear;

x = 1;
x = 2;
x = 3;
x = 4
x = 5 + x;
```

NO ERROR

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%% Example 2: Find the Error
clc; clear;

x = 1; y = 6; z = 7;
add = x .+ y+ z; (. does not work with + or -, only use for * ^ /)
disp(add)


%% Example 3: Find the Error
clear; clc;

disp('This is a string.')
disp(and this is a string) (Statement inside is missing apostrophes)
disp('Was that last display correct?')
disp what about this one? (Missing parenthesis and apostrophes)


%% Example 4: Find the Error
clc; clear;

x = input('x = ');
disp(x)
disp(sin(x))
disp([sin(x), x])
disp([sin (x), x]) (Should be sin(x), NOT sin (x). This is only the
case in the array, as spaces in an array can be used to separate
elements in the array. In this case, MATLAB sees sin separate from x,
and there is no variable named sin)


%% Example 5: Find the Error
clc; clear;

yes = 1; no = 0;
yes = no;
no = yes;
of_course = yes + no;
yes = yes'
no = no'; of_course = of_course';
of_course = 'of_course';
```

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no_times_no = no(no)     (Invalid statement. Not the same as no*no
since we need to put the * to indicate multiplication)


%% Example 5: Write the Output (The code is already correct)
% Show spaces with an underscore "_"


_Answer
The_value_for_p_=_2


%% Example 6: Write the Output (The code is already correct)
% NOTE: It is a bad idea to use the name of a built-in function for
% the name of a variable. It works, but it causes problems with the
% function the next time you try to use it.

Is_this_the_same_as_using_the_input_command?
Will_this_code_run?
```