

## Practice Problems:

### 1) Find the Error:

```
clc; clear;
degrees = 0:45:360;
k = 1;
radians = zeros(1, 9);
while k <= 9
    radians(k - 1) = degrees(k + 1) * pi / 180;
    k = k + 1;
end
degrees = Degree'; radians = radians';
MAT = [degrees, radians];
disp(' degrees radians')
disp(MAT)
```

### 2) Find the Error:

```
clc; clear;

for t = 0:1000
    y(t + 1) = t.^2 + 3;
    g(t + 1) = 0.5*t^3 - t + 1;
    h(t + 1) = t - 1;
    x(t + 1) = t;
end

figure(2)
subplot(3, 1, 5)
plot([x, y])
title('t versus y')
xlabel('t')
ylabel('y')
```

### 3) Find the Error:

```
i = 1;
for t = 0:0.5:1
    x(i) = t + t^2;
    y(i) = t^3 + 3;
    t1(i) = t;
    i = i + 1;
end
table = [t1; x; y];
figure(1); hold on
plot(t1, x, ':rs')
plot(t1, y, '-.p')
title('Graphs: ', 'fontsize', 18)
xlabel('t')
ylabel('y')
legend('x', 'y', 'location', 'bestplace')
graph = figure(1);
end
```

**4) Write the output:**

```
clc; clear;
A = [1 2; 3 4];
B = A(1, 1); C = A(2, 1);
B = C - B; B = B; C = C;
if B == C
    C = B;
else
    B = C;
end
k = zeros(3); k(1,1) = B;
k(3, 2) = C;

fprintf('%3i%3i%3i%3i \n', k)
```

**5) Write the output:**

```
clc; clear;

disp('What measurement of gasoline would you like to request (gallons or liters)? ')
measurement = 'gallons';
switch(measurement)
    case('gallons')
        disp('The selected measurement is in gallons. ')
        question_2 = 'How many gallons would you like to purchase? ';

        amount = 10;
        Price_gal = amount*1;
        FormatSpec = 'The price for the selected ammount is %2.2f dollars.\n  ';
        fprintf(FormatSpec, Price_gal)

    case('liters')
        disp('The selected measurement is in liters. ')
        question_3 = 'How many liters would you like to purchase? ';
        amount_2 = input(question_3);
        Price_L = amount_2 * 0.264;
        Text_2 = 'The price for the selected amount is %2.3f dollars.\n';
        fprintf(Text_2, Price_L)

    otherwise
        disp('Please restart and enter gallons or liters only.')

end
```

# ANSWERS:

## 1) Find the Error:

```
clc; clear;
degrees = 0:45:360;
k = 1;
radians = zeros(1, 9);
while k <= 9
    radians(k - 1) = degrees(k + 1) * pi / 180; % Error Here. radians(0) = error.
    k = k + 1;
end
degrees = Degree'; radians = radians'; "Degree does not exist"
MAT = [degrees, radians];
disp(' degrees radians')
disp(MAT)
```

## 2) Find the Error:

```
clc; clear;

for t = 0:1000
    y(t + 1) = t.^2 + 3;
    g(t + 1) = 0.5*t^3 - t + 1;
    h(t + 1) = t - 1;
    x(t + 1) = t;
end

figure(2)
subplot(3, 1, 5) A fifth element does not exist in the 3x1 figure matrix.
plot([x, y, x])
title('t versus y')
xtitle('t') "xtitle does not exist. Should be xlabel."
ytitle('y') "ytitle does not exist. Should be ylabel."
```

## 3) Find the Error:

```
i = 1;
for t = 0:0.5:1
    x(i) = t + t^2;
    y(i) = t^3 + 3;
    t1(i) = t;
    i = i + 1;
end
table = [t1; x; y];
figure(1); hold on
plot(t1, x, 'rs')
plot(t1, y, '-.p')
title('Graphs: ', 'fontsize', 18)
xlabel('t')
ylabel('y')
legend('x', 'y', 'location', 'bestplace') Should be 'best'
graph = figure(1);
end
```

