

### Question 1: Spot the error:

Objective is to define a 3\*3 matrix and display the matrix. Label the columns as x, y, z and the following code is written:

```
A=[1 2 3, 3 5 5, 6 7 9];
disp(' x, y, z:');
disp('A')
```

Correct Answer:

```
A=[1 2 3; 3 5 5; 6 7 9];
disp('      x,      y,      z:');
disp(A)
```

**Question 2: Ask user to enter value x and then calculate sin(x) and print the output.**

Answer:

```
Code:
clear;clc;
prompt=('Please enter a value for x: ');
x=input(prompt);
y=sin(x);
disp('y= '), disp(y);
```

**Question 3: Spot the error:**

```
A=[1 2 3; 4 5 6; 7 8 9];
B=[5 4 6; 7 8 9];
C=A.+A; D=A.*A;
F=A+B;
```

Answer:

```
C=A.+A; Do not need . before + or -
D=A.*A; Valid, elementwise multiplication
F=A+B; Matrix dimension do not agree
```

**Question 4: Write the code**

define expression  $y=ax^2+bx+c$ , ask user for value of a, b and c. Display the corresponding equation and evaluate it at  $x=4$ .

```
sym x;
a=input('Enter a value for a');
b=input('Enter a value for b');
c=input('Enter a value for c');
y=a*x^2+b*x+c;
disp('y=');
disp(y);
x=4;
y=a*x^2+b*x+c;
disp('y=');disp(y);
```

**Question 5: Write the code**

Create a 3\*3 matrix of all ones. Next, change the three elements in the diagonal starting from the top left to be the sin of that value, square root of 10, and a user input, respectively.

```
clear;
clc;
A=ones(3);
A(1,1)=sin(A(1,1));
A(2,2)=sqrt(10);
A(3,3)=input('enter a value');
disp(A)
```