**Exercise for basic operations**

1. Create a new script file and save it as "basic\_operations.m"
2. Define two variables "a" and "b" with integer values of your choice.
3. Use arithmetic operations to calculate and display the following:
   1. The sum of a and b
   2. The difference between a and b
   3. The product of a and b
   4. The quotient of a and b (as a decimal)
4. Define a variable "c" as a string with a value of your choice.
5. Use the "str2double" function to convert "c" to a numeric value, and assign it to a new variable "d".
6. Use a logical operator to test if "d" is greater than or equal to the sum of "a" and "b", and display the result.
7. Define a variable "angle" with a value of your choice (in radians).
8. Use trigonometric functions to calculate and display the sine, cosine, and tangent of "angle".

**Answers:**

% basic\_operations.m

% Define variables a and b

a = 10;

b = 5;

% Calculate and display the sum of a and b

sum\_ab = a + b;

disp(['The sum of a and b is: ', num2str(sum\_ab)]);

% Calculate and display the difference between a and b

diff\_ab = a - b;

disp(['The difference between a and b is: ', num2str(diff\_ab)]);

% Calculate and display the product of a and b

prod\_ab = a \* b;

disp(['The product of a and b is: ', num2str(prod\_ab)]);

% Calculate and display the quotient of a and b (as a decimal)

quot\_ab = a / b;

disp(['The quotient of a and b is: ', num2str(quot\_ab)]);

% Define a variable c as a string

c = "20";

% Convert c to a numeric value

d = str2double(c);

% Test if d is greater than or equal to the sum of a and b

result = (d >= sum\_ab);

disp(['Is d greater than or equal to the sum of a and b? ', num2str(result)]);

% Define an angle in radians

angle = pi/4;

% Calculate and display the sine of the angle

sin\_angle = sin(angle);

disp(['The sine of the angle is: ', num2str(sin\_angle)]);

% Calculate and display the cosine of the angle

cos\_angle = cos(angle);

disp(['The cosine of the angle is: ', num2str(cos\_angle)]);

% Calculate and display the tangent of the angle

tan\_angle = tan(angle);

disp(['The tangent of the angle is: ', num2str(tan\_angle)]);