Module 01:
Basic MATLAB Programming

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(a)
```
John = 1;
```

(b)
```
_Tom = 10;
```

(c)
```
var_mat_1 = 3;
```

(d)
```
var*2 = 3;
```

M01-Q1: Which of the following scripts have errors?

(a)
```
John = 1;
```

(b)
```
_Tom = 10;
```

(c)
```
var_mat_1 = 3;
```

(d)
```
var*2 = 3;
```

- **Answer:** (b), (d)
- **Comment:** Review “Variable Names” (p. 12) and its examples (p.12, p.13)

```
x1 = 6;
x2 = 11;

var1 = x2 < x1 + 2^4;
var2 = 2^4 + x2 < x1;

var3 = var1 + var2;
```

M01-Q2: What is the value in *var3*?

```
x1 = 6;
x2 = 11;

var1 = x2 < x1 + 2^4;
var2 = 2^4 + x2 < x1;

var3 = var1 + var2;
```

- **Answer:** 1
- **Comment:** Review “General Operator Precedence” (p.28) and its example (p. 29)

```
x1 = 6;
x2 = 11;

var1 = (3 < x1) && (x1<10)
var2 = 12 > x2 > 3;

var3 = var1 + var2;
```

M01-Q3: What is the value in *var3*?

```
x1 = 6;
x2 = 11;

var1 = (3 < x1) && (x1<10)
var2 = 12 > x2 > 3;

var3 = var1 + var2;
```

- **Answer:** 1
- **Comment:** Review “Type Cast” (p.19) and an example (see comment) (p. 30)

A) round(x)
B) fix(x)
C) ceil(x)
D) floor(x)

M01-Q4: Which rounding function should be used to round a number toward 0?

```
A) round(x)
B) fix(x)
C) ceil(x)
D) floor(x)
```

- **Answer:** B
- **Comment:** Review “Rounding functions” (p.32) and its examples (p. 33, 34)

```
x1 = 46;
x2 = 7;

var1 = fix(x1/x2);
var2 = x1 - var1*x2;

var3 = var1*x2 + var2;
```

M01-Q5: What value is assigned to *var3*?

```
x1 = 46;
x2 = 7;

var1 = fix(x1/x2);
var2 = x1 - var1*x2;

var3 = var1*x2 + var2;
```

- **Answer:** 46
- **Comment:** Review “Common Match Functions” (p.35) and its example (p. 36)

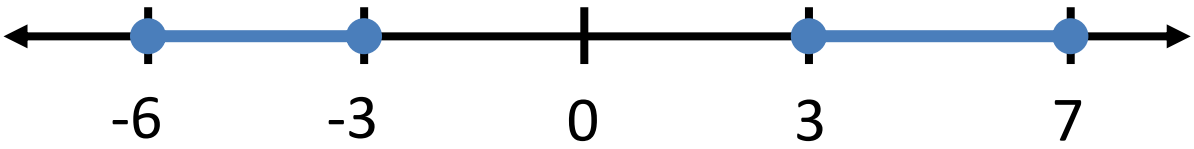
```
Var1 = double('a');
Var2 = Var1 + 10;
Var = Var2 > 0;
```

M01-Q6: What will `class(Var)` return?

```
Var1 = double('a');
Var2 = Var1 + 10;
Var = Var2 > 0;
```

- **Answer:** Logical
- **Comment:** Review “Relational Operator” (p.24)

Which of the script to check if `x` is placed at the intervals in blue? If yes, assign true in `lg`. Otherwise, assign false




```
lg1 = and(x>=-6, x<=-3);
lg2 = and(x>=3, x<=7);
lg = or(lg1, lg2);
```
(a)

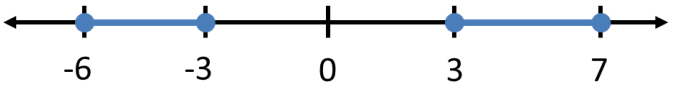
```
lg1 = or(x>=-6, x<=-3);
lg2 = or (x>=3, x<=7);
lg = and(lg1, lg2);
```
(b)

```
lg1= (x>=-6) && (x<=-3);
lg2= (x>=3) && (x<=7);
lg= lg1 && lg2;
```
(c)

```
lg1= (x>=-6) || (x<=-3);
lg2= (x>=3) || (x<=7);
lg= lg1 || lg2;
```
(d)

M01-Q7: Please answer the following question.

Which of the script to check if `x` is placed at the intervals in blue? If yes, assign true in `lg`. Otherwise, assign false




```
lg1 = and(x>=-6, x<=-3);
lg2 = and(x>=3, x<=7);
lg = or(lg1, lg2);
```
(a)

```
lg1 = or(x>=-6, x<=-3);
lg2 = or (x>=3, x<=7);
lg = and(lg1, lg2);
```
(b)

```
lg1= (x>=-6) && (x<=-3);
lg2= (x>=3) && (x<=7);
lg= lg1 && lg2;
```
(c)

```
lg1= (x>=-6) || (x<=-3);
lg2= (x>=3) || (x<=7);
lg= lg1 || lg2;
```
(d)

- **Answer:** (a)
- **Comment:** Review the example (p.30)