

③ if - else if - ... - else - end;

Used for more than two conditions

EX

Write program if  $a > 0$  then  $b = 1$ , if  $a < 0$ , then  $b = 2$ , otherwise  $b = 0$

```

>> a = input('a = '); % ← shift
    if a > 0 %
        b = 1 %
    elseif a < 0 %
        b = 2 %
    else %
        b = 0 %
    end; disp(b) %
    
```

EX Create matrix  $A(3 \times 3)$  has elements are when  $i > j$  then  $a_{ij} = j + 1$ , when  $i < j$  then  $a_{ij} = 0$  and when  $i = j$  then  $a_{ij} = 5$

Sol.

```

>> for i = 1:3 % ← shift
    for j = 1:3 %
        if i > j %
            A(i,j) = j + 1 %
        elseif i < j %
            A(i,j) = 0 %
        end %
    end %
    
```

```

else
    shift
A(i,j) = 5*j
end
end
end
disp(A)

```

Result

```

5 0 0
2 5 0
2 3 5

```

**EX2** Create matrix  $B(3 \times 3)$  has elements are when  $i > j$  then  $b_{ij} = 2j + 2$ , when  $i < j$  then  $b_{ij} = i^2$  and when  $i = j$  then  $b_{ij} = i + 1$

```

>> for i = 1:3
    for j = 1:3
        if i > j
            B(i,j) = 2*j + 2
        elseif i < j
            B(i,j) = i^2
        else
            B(i,j) = i + 1
        end
    end
end
disp(B)

```

Result

```

2 1 1
3 3 4
3 4 4

```