1. Graph Theory
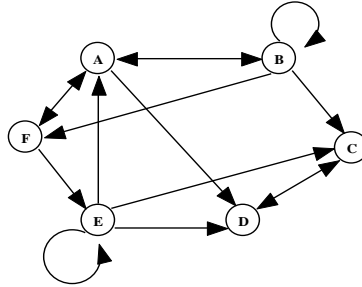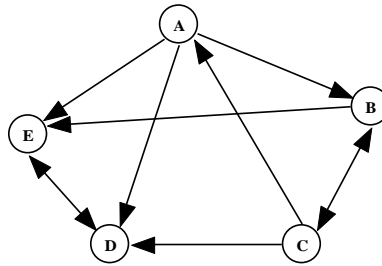
Draw the adjacency matrix for the directed graph at the right?

1.
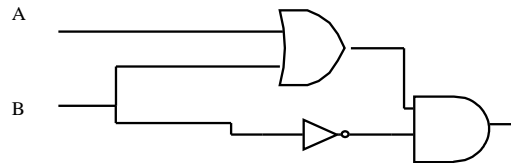

2. Graph Theory

How many paths of length 2 are there in the directed graph at the right?
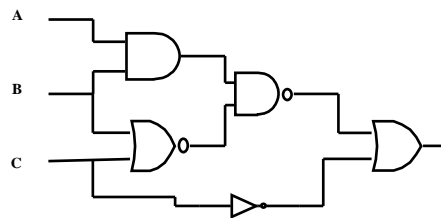
2.

3. Digital Electronics

Which ordered pairs make the digital circuit at the right TRUE?

3.

4. Digital Electronics

Translate the digital circuit at the right to its equivalent Boolean expression. Do not simplify.

4.

5. What Does This Program Do? - Strings

What is the output when this program is run?

```
A="NEWJERSEYISTHEGARDENSTATE"
B="": C="": D="": E="": F=""
for x = 0 to len(A) − 1
      if A[x:x] < "K" then
            B = B + A[x:x]
      else
            C = C + A[x:x]
      end if
next x
for x = 0 to len(B) − 1
      if B[x:x] != "E" then
            D = D + B[x:x]
      end if
      if C[x:x] != "S" then
            E = E + C[x:x]
      end if
next x
for x = 0 to 5
      if ((D[x:x] != "A") && (E[x:x] != "R")) then
            F = D[x:x] + F + E[x:x]
      end if
next x
output F
end
```

5.