A+ Computer Science	Graph – SHORTEST PATH	Lab Value - 100

Lab Goal : This lab was designed to teach you how to use recursion to solve a connection problem.

Lab Description : Take a group of provided connections and create a map of all connections. Search this map with two provided values to see if a connection exists. Find the shortest path between the two provided values. All connections are bi-directional.

List of connections : AB BC CD DE CE
Is A connected to E? Yes – shortest path would be AB BC CE
- another path would be AB BC CD DE

Sample Data :

```
9
CA XY RS YS ST TB AB BD RJ
CD
PQ QX AX BH CH DX EX FX GH AB BC CD DE AE CE FD TH
PT
AE EI IO OU BC CD DF FG
AG
HI HJ HK KQ KM KN MO MP MQ
HQ
AB CD EF GH CB ED GF HI
AI
TV XY AZ XT JK KL LT JX MN TN JL NO OP PT NX
VZ
AB BC CD DE EF FG GH HI IJ AE AC JZ FZ AZ
AZ
NO PQ RS TU OU RP AB CD EF GH AH CE NS FA GQ
DT
IX VX CX DX MX LX BY
IB
```

Files Needed ::
ShortestPathGraph.java
ShortestPathGraphRunner.java

Sample Output :

```
C connects to D == yes in 3 steps
P connects to T == yes in 6 steps
A connects to G == no
H connects to Q == yes in 2 steps
A connects to I == yes in 8 steps
V connects to Z == no
A connects to Z == yes in 1 steps
D connects to T == yes in 14 steps
I connects to B == no
```