**Project Data Sets 2012**

The following are the data sets for the project. I tried to design them to progress from fairly easy to hard. All were hand constructed so it is possible to reach the final state with 0 beads remaining on each. Two copies are provided for each – one with blanks between the characters and one without.

1.

A A C A C

D A C D C

D B D D D

D A C B C

B A A A B

AACAC

DACDC

DBDDD

DACBC

BAAAB

2.

A B A A B

A B A C B

B B A B B

A C B C B

C C C C C

ABAAB

ABACB

BBABB

ACBCB

CCCCC

3.

E E A A A E E E

E A E A E B B E

A C B A E C D A

E A C B E B C C

E C A A B B A A

E C C C A D A A

C D D B E C B B

A A A B A B B B

EEAAAEEE

EAEAEBBE

ACBAECDA

EACBEBCC

ECAABBAA

ECCCADAA

CDDBECBB

AAABABBB

4.

E E E C H F H H

D C B A H A F H

D F B G H B F C

D F G G E A B C

E G G G B E C C

G C C C B B B H

F F F B E E F H

A C A A H H H H

EEECHFHH

DCBAHAFH

DFBGHBFC

DFGGEABC

EGGGBECC

GCCCBBBH

FFFBEEFH

ACAAHHHH

5.

E E E A B B B B C A

E E E A B E D D C A

D E D A A E D D C E

F F F F A D D D A E

B F B A C E D B D D

A F C C C D A B A A

A A A C E C B C A A

D B E E A A C C D D

C E D A C B B B E E

C C C C A A A D A A

EEEABBBBCA

EEEABEDDCA

DEDAAEDDCE

FFFFADDDAE

BFBACEDBDD

AFCCCDABAA

AAACECBCAA

DBEEAACCDD

CEDACBBBEE

CCCCAAADAA

6.

D D C E E B B B A B

C D C C E E B A B A

C D C G E C B E B E

A A E A C C B C C C

B A E E E E E E E D

D D B G C A G H C H

D B B B B C G H H H

C H C H H B A E D D

H B C B B B G C D C

G A C G C G G A B A

DDCEEBBBAB

CDCCEEBABA

CDCGECBEBE

AAEACCBCCC

BAEEEEEEED

DDBGCAGHCH

DBBBBCGHHH

CHCHHBAEDD

HBCBBBGCDC

GACGCGGABA

7.

C C E E A A A E A A G C

C E E F A B A E A B B C

C D A E F A E C A D C D

D D F A F C B C E G D E

F F D A B D B A E G F E

D D E A B F C D A C B B

C E C D C F D A A A B B

B B A A B D B D C G E E

B B B B F D A E E F E A

C C A A D F D D B A A C

D C C F F A A A E C C C

E E E A B E D C F A A D

CCEEAAAEAAGC

CEEFABAEABBC

CDAEFAECADCD

DDFAFCBCEGDE

FFDABDBAEGFE

DDEABFCDACBB

CECDCFDAAABB

BBAABDBDCGEE

BBBBFDAEEFEA

CCAADFDDBAAC

DCCFFAAAECCC

EEEABEDCFAAD

8.

A A J A F F K H A A C B J J C A

A J L L A A F A A C B A F F K K

J K C B B E K A A B J F F F C C

K C B C L H B H B J J D J D D D

A A A L H A D A I B J C A E C B

K B H D D D D E E E B C A H A B

B E I A A A B B G C H C E C A B

B J J H F E K G D A B H K K A C

K K B B J A A A J J B B H J B A

F F F D G G H B A A A D E D D D

K E C J F E D D J J D E A B J A

A C C I B B H A G A F H B B E J

E I A A A C H C A B B B K K K E

A E H G F D A D A B F H A B J E

D C C C G G I I G H H A D D D B

A E H B F B A C I E F E A C B C

AAJAFFKHAACBJJCA

AJLLAAFAACBAFFKK

JKCBBEKAABJFFFCC

KCBCLHBHBJJDJDDD

AAALHADAIBJCAECB

KBHDDDDEEEBCAHAB

BEIAAABBGCHCECAB

BJJHFEKGDABHKKAC

KKBBJAAAJJBBHJBA

FFFDGGHBAAADEDDD

KECJFEDDJJDEABJA

ACCIBBHAGAFHBBEJ

EIAAACHCABBBKKKE

AEHGFDADABFHABJE

DCCCGGIIGHHADDDB

AEHBFBACIEFEACBC

9.

D D A G C C C E E E D D F F B E C A

A A D G F C C F F E D D F B H E A A

C G D D B C E F F B E E F B E E G C

C E A A A F E A A A E E A H C C G C

C H A A A D F A A A E A A E A A G E

A F G D D D F D D B A A H E E H A E

E F E E D B D C D A C G H H H C H E

G F H C B B B A A D C D A C C H D E

H C C A G G A A B A D B B B H A A C

H A A D D D B A B F C G D C A C E A

C C B G G C B C F A A A D H H C D H

C A A A G D F D D D F B E B G E B D

A E D F G C H C H A F G E B C H H B

D E B F G D H B H B B D E B A A A H

A E D F A A F B F A F C A C E G G G

D E G F B B B B F A D D A D G D B B

G G A A B B A C F F F E E E A A H A

A E B F G C A C G G G F A D G C H A

DDAGCCCEEEDDFFBECA

AADGFCCFFEDDFBHEAA

CGDDBCEFFBEEFBEEGC

CEAAAFEAAAEEAHCCGC

CHAAADFAAAEAAEAAGE

AFGDDDFDDBAAHEEHAE

EFEEDBDCDACGHHHCHE

GFHCBBBAADCDACCHDE

HCCAGGAABADBBBHAAC

HAADDDBABFCGDCACEA

CCBGGCBCFAAADHHCDH

CAAAGDFDDDFBEBGEBD

AEDFGCHCHAFGEBCHHB

DEBFGDHBHBBDEBAAAH

AEDFAAFBFAFCACEGGG

DEGFBBBBFADDADGDBB

GGAABBACFFFEEEAAHA

AEBFGCACGGGFADGCHA

10.

G G G G G L E E E E D E E C C C C B F F F F

G G F E E L B B E E D E B H H B C B B E B F

F F H B E A B A B D D B A A A A B E E E D B

F H A A A G G G F A B B H H H H B E E B A B

H B B B E L L D F D B H H F G B E C D D C B

H L D F B D L A F A C C F G C C E B B A D A

B A D F F F L E A C C F G C B A A F F F A A

A D D D B A A E D B A C H B C B E A B C E A

A A L C D L L E A H C C B B E C C B C D B D

L C C D L G G F C H C B B C A A A D K A F A

A D L L G E E A F E B B H E G G B A K E E E

A D D E E A A A A E H H H G F E H A F E E E

A A D D D D D D F E D D F F H H D L K F K F

C C C C C H H D F H D D H E D D B L E B A E

A A A C H H H D D H G G D B B B A A A E K B

A A A B H B E G D D G D G D H H D L D B B B

B D B A H D D E G G D F G D E E D L D C B B

A D B C H F F F E G C F F C A A A A D K D K

C D C E H B B B E E H C F C B B H D C C D B

E E E D D F F D D E H H C B A A E H D A D K

C D C C H A E D B E B B G A D D D E A B B K

A D B A H A E D A E A A G C E C C C D C A A

GGGGGLEEEEDEECCCCBFFFF

GGFEELBBEEDEBHHBCBBEBF

FFHBEABABDDBAAAABEEEDB

FHAAAGGGFABBHHHHBEEBAB

HBBBELLDFDBHHFGBECDDCB

HLDFBDLAFACCFGCCEBBADA

BADFFFLEACCFGCBAAFFFAA

ADDDBAAEDBACHBCBEABCEA

AALCDLLEAHCCBBECCBCDBD

LCCDLGGFCHCBBCAAADKAFA

ADLLGEEAFEBBHEGGBAKEEE

ADDEEAAAAEHHHGFEHAFEEE

AADDDDDDFEDDFFHHDLKFKF

CCCCCHHDFHDDHEDDBLEBAE

AAACHHHDDHGGDBBBAAAEKB

AAABHBEGDDGDGDHHDLDBBB

BDBAHDDEGGDFGDEEDLDCBB

ADBCHFFFEGCFFCAAAADKDK

CDCEHBBBEEHCFCBBHDCCDB

EEEDDFFDDEHHCBAAEHDADK

CDCCHAEDBEBBGADDDEABBK

ADBAHAEDAEAAGCECCCDCAA

11.

H H K L L L E L L L E A A F F C C B H H J J D A D

C D K K L B E L E L B A D F Y A Y O H P P J A A D

D C H K K B E F C E P D E Y Y D I F P P E D D D D

E D D A K B E C A C C D I E C I F I E E A A A H B

A E C D K F F A E B I I I C A F F C B B I C C B B

C A I I B E A F J P E D H A D F C C A A A I C O B

C A F P P E E J A A I C A D I Y B O B I B B H Y Y

C B I F F P J A C C C C D C C B B O D D O O B Y H

C Y D I D B C C B I F E E H E D B D D A A A O Y H

A Y E A A B O C B I A E D A H D D C Y F O D E O O

B Y E O C B O C P C C C P D A I B B C F H D H E E

A B B F C O Y B P Y B E A E D E I Y B C B B B L E

A O O J C O O B I A B C A P P I I J Y A F D H H L

P P P P O Y D B Y C B E D I I C C C F A B Y Y H L

A O D Y D G J D Y C C A D E C E I J A G D A A Y L

O E J P Y J R D A H B E D Y Y Y Y H E E E D D A Y

O P P F J G F F A H D E A E C D Y H A H C H H I I

O J C I C R C D E H C F B Y Y A A H A G G B E H I

D E I R I F I C A F E B B D C D A J G B A D D E H

J A A A R I E E B B D D D A A D B D A A D I I I H

C I B F B G B C R C F F F Y C J J G H B H B B E E

I E H H H L R R Y C H A A Y O B B G G B G A C O L

B H L L L R Y Y R Y H D A B B C C K K C D D A O L

H K K K K H H C D Y H F F Y O D D K C A C C D A A

A E A F A G A C R Y E E F Y O C C D K E E E C O L

HHKLLLELLLEAAFFCCBHHJJDAD

CDKKLBELELBADFYAYOHPPJAAD

DCHKKBEFCEPDEYYDIFPPEDDDD

EDDAKBECACCDIECIFIEEAAAHB

AECDKFFAEBIIICAFFCBBICCBB

CAIIBEAFJPEDHADFCCAAAICOB

CAFPPEEJAAICADIYBOBIBBHYY

CBIFFPJACCCCDCCBBODDOOBYH

CYDIDBCCBIFEEHEDBDDAAAOYH

AYEAABOCBIAEDAHDDCYFODEOO

BYEOCBOCPCCCPDAIBBCFHDHEE

ABBFCOYBPYBEAEDEIYBCBBBLE

AOOJCOOBIABCAPPIIJYAFDHHL

PPPPOYDBYCBEDIICCCFABYYHL

AODYDGJDYCCADECEIJAGDAAYL

OEJPYJRDAHBEDYYYYHEEEDDAY

OPPFJGFFAHDEAECDYHAHCHHII

OJCICRCDEHCFBYYAAHAGGBEHI

DEIRIFICAFEBBDCDAJGBADDEH

JAAARIEEBBDDDAADBDAADIIIH

CIBFBGBCRCFFFYCJJGHBHBBEE

IEHHHLRRYCHAAYOBBGGBGACOL

BHLLLRYYRYHDABBCCKKCDDAOL

HKKKKHHCDYHFFYODDKCACCDAA

AEAFAGACRYEEFYOCCDKEEECOL