```
END TASK file_file_bfs_data

Write a program that implements and BFS algorithm to create a directional
tree starting from a root node and ending at all possible leaf nodes.
Input:

Input will be read in using a predefined .dat document, called file_bfs_data
Each line in the file will be a node and its children, separated by a space.
Example: a line in the file reads "1 2 3 4". This example would be the
starting node 1, with the node 2, 3, and 4 as its children. Node 2 would be a
leaf node because it has no children. Node 1 would be the root node. Node 1
is the only node that will be given as a root node. Nodes 2, 3, and 4 will
always be leaf nodes. Nodes that are not leaf nodes will always be given as
root nodes, and will not be listed as a child anywhere. Nodes will be given
from 1 to 1000 and will not be listed in a file more than once. Nodes will be
listed in ascending order, with the root node listed first, followed by its
children. The file will be terminated with a line containing only the word
"END".

Output:

Output will be a list of all children and a the nodes's distance to the
starting node. Starting with the root node, and the distance to it (starting
with 0).

    CHILDREN NODE 1 (LABEL)
        NODE 2 (DISTANCE TO LABEL)

    CHILDREN NODE 2 (LABEL)
        NODE 3 (DISTANCE TO LABEL)

    CHILDREN NODE 3 (LABEL)
        NODE 4 (DISTANCE TO LABEL)

    CHILDREN NODE 4 (LABEL)
        NODE 5 (DISTANCE TO LABEL)

    CHILDREN NODE
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```
VALUE KEYHOLE
  -1 = '-1 INAPPLICABLE'
   1 = '1 KEY'
   2 = '2 NOT KEY'
   /
VALUE LPTSF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 UNABLE TO DO'
   /
VALUE MARRY18
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 MARRIED'
   2 = '2 WIDOWED'
   3 = '3 DIVORCED'
   4 = '4 SEPARATED'
   5 = '5 NEVER MARRIED'
   6 = '6 UNDER 18 INAPPLICABLE'
   7 = '7 MARRIED NO RSOMO'
   8 = '8 WIDOWED IN RSOMO'
   9 = '9 DIVORCED IN RSOMO'
  10 = '10 SEPARATED IN RSOMO'
  /
VALUE MCA111F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE MCA113A
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE MCAMS11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE MCAMS13A
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE MILSF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 UNABLE TO DO'
   /
VALUE MSELF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 EXCELLENT'
   2 = '2 VERY GOOD'
   3 = '3 GOOD'
   4 = '4 FAIR'
   5 = '5 POOR'
   /
VALUE MSA13F
  -1 = '-1 INAPPLICABLE'
   1 = '1 MSA'
   2 = '2 NON-MSA'
   /
VALUE NMEMP13F
  -9 = '-9 NOT ASCERTAINED'
  -1 = '-1 INAPPLICABLE'
   1 = 500 = '1 - 500 NUMBER OF EMPLOYEES'
   /
VALUE OFFER11A
  -9 = '-9 NOT ASCERTAINED'
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE OTPAA11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE OTPMS11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE PANEL11F
   8 = '8 PANEL 8 RS 3'
   9 = '9 PANEL 9 RS 1'
   /
VALUE PID
   10 - 223 = '10 - 223 PERSON NUMBER'
   /
VALUE PRIMS11F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PRIMS13F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PRIMS13F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PRIMS13F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PRIMS14F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PRIV11F
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE PROVS11F
  -1 = '-1 INAPPLICABLE'
   1 = 'RESPONDENT IS NO WOMEN'
   2 = '2 RESPONDENT IS A PROXY'
   /
VALUE PUFF11F
  -9 = '-9 NOT FIELDED/NON-RESPONSE RU'
   1 = '1 INCOMPATIBLE LISTED IN RU AT HH18'
  11 = '11 PERSON IN HOUSEHOLD, NOT FT ACTIVE MIL'
  12 = '12 PERSON IN GQ, NOT FT ACTIVE MILITARY'
  13 = '13 FT STUD LISTED ANAY FROM HOME'
  14 = '14 IN UNIV HH, FT ACTIVE DUTY/INSCOPE'
  21 = '21 LEAVE ABSENCE/TEMP LAYOFF - R1 ONLY'
  22 = '22 LEAVE INSTITUTION - R1 ONLY'
  23 = '23 LEAVE INSTITUTION & SCHL - R1 ONLY'
  24 = '24 LEAVE INSTITUT OTHERS RS - R1 ONLY'
  31 = '31 INCARAC'
  32 = '32 INSTITUTIONALIZED IN HEALTH CARE FAC'
  33 = '33 INSTITUTIONALIZED IN CORRECTIONAL FAC'
  34 = '34 MOVED OUTSIDE U.S., NOT AS STUDENT'
  35 = '35 MOVED, FT ACTIVE DUTY'
  41 = '41 MOVED WITHIN U.S. (TYPE UNKNOWN)'
  43 = '43 MOVED WITHIN U.S.'
  62 = '62 PERSON WHO JOINED HU'
  63 = '63 LEFT U.S. FOR 90 DAY OR LNK LOCATION'
  64 = '64 JOINS ANOTHER HU, & IS INSCOPE'
  51 = '51 NEWBORN IN HEF PERIOD'
  52 = '52 INSTITUT RELEASE IN HEF PERIOD-R1 ONLY'
  42 = '42 INSTITUT FELON TO HEF FEB-R1 ONLY'
  43 = '43 LEFT U.S. PRIOR TO HEF FEB-R1 ONLY'
  61 = '61 MOVED, FT STUD, NO HEF, DATA IMPUTED-R1'
  71 = '71 LIVING ANAY UNDER 1-11 HONEY'
  72 = '72 INELIG NON-KEY/RESIDENCY RCPL YR ONLY'
  73 = '73 INELIG NON-KEY/NON-RESIDENCY RCPL YR'
  74 = '74 MOVED AB FT ALL, NOT TO A, W/OUT HEF'
  81 = '81 MOVED, FT STUD, NO HEF, DATA IMPUTED'
  /
VALUE PUH13A
  -1 = '-1 INAPPLICABLE'
   1 = 'YES'
   2 = '2 NO'
   /
VALUE RACAA
  -1 = '-1 INAPPLICABLE'
   1 = '1 AS1AN-NO OTHER RACE REPORTED'
   2 = '2 AS1AN-OTHER RACE(S) REPORTED'
   3 = '3 ALL OTHER RACE RACIOOMENTS'
   /
VALUE RACBA
  -1 = '-1 INAPPLICABLE'
   1 = '1 BLACK-NO OTHER RACE REPORTED'
   2 = '2 BLACK-OTHER RACE(S) REPORTED'
   3 = '3 ALL OTHER RACE RACIOOMENTS'
   /
VALUE RACOTHER
  -1 = '-1 INAPPLICABLE'
   1 = '1 PERSON IS AMERICAN INDIAN/ALEOARSH-NO OTHR'
   2 = '2 PERSON IS AS1AN-NO OTH RACE/NOT HISPANIC'
   3 = '3 PERSON IS AS1AN-NO OTH RACE/NOT HISPANIC'
   4 = '4 OTHER RACE/NOT HISPANIC'
   /
VALUE RACWA
  -1 = '-1 INAPPLICABLE'
   1 = '1 WHITE - NO OTHER RACE REPORTED'
   2 = '2 WHITE-OTHER RACE(S) REPORTED'
   3 = '3 ALL OTHER RACE RACIOOMENTS'
   /
VALUE RACE
  -1 = '-1 INAPPLICABLE'
   1 = '1 WHITE - NO OTHER RACE REPORTED'
   2 = '2 BLACK - NO OTHER RACE REPORTED'
   3 = '3 AMERICAN INDIAN/ALEOARSH - NO OTH RACE'
   4 = '4 ASIAN - NO OTHER RACE REPORTED'
   5 = '5 NATIVE HAWAIIAN/PACIFIC ISLANDER-NO OTHR'
   6 = '6 MULTIPLE RACES REPORTED'
   /
VALUE RCHDF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 UNABLE TO DO'
   /
VALUE RECC11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 MIDWEST'
   2 = '2 NORTHEAST'
   3 = '3 SOUTH'
   4 = '4 WEST'
   /
VALUE RESMO11F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 - 31 = '1 - 31 DAY'
   /
VALUE RESMO13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 JANUARY'
   2 = '2 FEBRUARY'
   3 = '3 MARCH'
   4 = '4 APRIL'
   5 = '5 MAY'
   6 = '6 JUNE'
   7 = '7 JULY'
   8 = '8 AUGUST'
   9 = '9 SEPTEMBER'
  10 = '10 OCTOBER'
  11 = '11 NOVEMBER'
  12 = '12 DECEMBER'
  /
VALUE RESRF11F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
2004 = '2004 YEAR'
  /
VALUE RESRS11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 NON-RESPONDENT'
   2 = '2 NON-HOUSEHOLDER'
   3 = '3 YES, FIRST RESPONDENT'
   4 = '4 YES, NOT FIRST RESPONDENT'
   5 = '5 NOT INTERVIEWED'
   /
VALUE RFRELI18
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   0 = '0 SELF'
   1 = '1 HUSBAND'
   2 = '2 FATHER'
   3 = '3 SISTER/STEP/HALF'
   4 = '4 BROTHER/STEP/HALF'
   5 = '5 DAUGHTER/ADOPTED DAUGHTER'
   6 = '6 SON/ADOPTED SON'
   7 = '7 AUNT/UNCLE'
   8 = '8 NIECE/NEPHEW'
   9 = '9 MOTHER-IN-LAW'
  10 = '10 SON-IN-LAW/DAUGHTER-IN-LAW'
  11 = '11 SISTER-IN-LAW'
  12 = '12 BROTHER-IN-LAW'
  13 = '13 GRANDPARENT/GREAT-GRANDPARENT'
  14 = '14 SON-IN-LAW'
  15 = '15 STEPMOTHER'
  16 = '16 STEPDAUGHTER'
  17 = '17 STEPSAUGHTER'
  18 = '18 STEPSON'
  19 = '19 GRANDDAUGHTER-LAW'
  20 = '20 GRANDFATHER'
  21 = '21 AUNT'
  22 = '22 UNCLE'
  23 = '23 NIECE'
  24 = '24 NEPHEW'
  25 = '25 COUSIN'
  26 = '26 GRANDSON'
  27 = '27 GRANDDAUGHTER'
  28 = '28 FOSTER PARENT'
  29 = '29 FOSTER CHILD'
  30 = '30 MOTHER'S PARTNER'
  31 = '31 FATHER'S PARTNER'
  32 = '32 DAUGHTER OF PARTNER'
  33 = '33 SON OF PARTNER'
  34 = '34 GREAT GRANDMOTHER'
  35 = '35 GREAT GRANDFATHER'
  36 = '36 GREAT GRANDDAUGHTER'
  37 = '37 GREAT GRANDSON'
  38 = '38 GREAT AUNT'
  39 = '39 GREAT UNCLE'
  41 = '41 GREAT NIECE'
  42 = '42 GREAT NEPHEW'
  43 = '43 FOSTER MOTHER'
  44 = '44 FOSTER FATHER'
  45 = '45 FOSTER DAUGHTER'
  46 = '46 FOSTER SON'
  91 = '91 OTHER RELATES, SPECIFY'
  99 = '99 NOT RELATED'
  /
VALUE RHLF11F
  -1 = '-1 INAPPLICABLE'
   'A' = 'A'
   'B' = 'B'
   'C' = 'C'
   'D' = 'D'
   'E' = 'E'
   'F' = 'F'
   'G' = 'G'
   'H' = 'H'
  /
VALUE RHPF13F
  -1 = '-1 INAPPLICABLE'
  10 - 999 = '10 - 999'
  /
VALUE RHSC11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 RESPONDENT RU'
   2 = '2 NON-RESPONDENT RU'
   3 = '3 STUDENT RU'
   /
VALUE RHSC13F
  -1 = '-1 INAPPLICABLE'
   1 = '1 PERSON IN RU'
   2 = '2 PERSONS IN RU'
   3 = '3 PERSONS IN RU'
   4 = '4 PERSONS IN RU'
   5 = '5 PERSONS IN RU'
   6 = '6 PERSONS IN RU'
   7 = '7 PERSONS IN RU'
   8 = '8 PERSONS IN RU'
   9 = '9 PERSONS IN RU'
  10 = '10 PERSONS IN RU'
  11 = '11 PERSONS IN RU'
  12 = '12 PERSONS IN RU'
  13 = '13 PERSONS IN RU'
  14 = '14 PERSONS IN RU'
  15 = '15 PERSONS IN RU'
  16 = '16 PERSONS IN RU'
  17 = '17 PERSONS IN RU'
  18 = '18 PERSONS IN RU'
  /
VALUE RCHLA13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 EXCELLENT'
   2 = '2 VERY GOOD'
   3 = '3 GOOD'
   4 = '4 FAIR'
   5 = '5 POOR'
   /
VALUE RHSC13F
  -1 = '-1 INAPPLICABLE'
   1 = '1 RESPONDENT RU'
   2 = '2 NON-RU'
   3 = '3 STUDENT RU'
   /
VALUE RHSC11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 PERSON IN RU'
   2 = '2 PERSONS IN RU'
   3 = '3 PERSONS IN RU'
   4 = '4 PERSONS IN RU'
   5 = '5 PERSONS IN RU'
   6 = '6 PERSONS IN RU'
   7 = '7 PERSONS IN RU'
   8 = '8 PERSONS IN RU'
   9 = '9 PERSONS IN RU'
  10 = '10 PERSONS IN RU'
  11 = '11 PERSONS IN RU'
  12 = '12 PERSONS IN RU'
  13 = '13 PERSONS IN RU'
  14 = '14 PERSONS IN RU'
  15 = '15 PERSONS IN RU'
  16 = '16 PERSONS IN RU'
  17 = '17 PERSONS IN RU'
  18 = '18 PERSONS IN RU'
  /
VALUE RCHLA13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 EXCELLENT'
   2 = '2 VERY GOOD'
   3 = '3 GOOD'
   4 = '4 FAIR'
   5 = '5 POOR'
   /
VALUE SEX
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 MALE'
   2 = '2 FEMALE'
   /
VALUE SLFJC913F
  -9 = '-9 NOT ASCERTAINED'
  -1 = '-1 INAPPLICABLE'
   1 = 'SELF-EMPLOYED'
   2 = '2 WORKS FOR SOMEONE ELSE'
   /
VALUE SOCIA13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE SPIDI3F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
  10 = 994 - '010 - 994 VALID SPOUSEID'
  995 = '995 SPOUSE NOT IN HOUSE'
  996 = '996 PRACTIAL STATUS UNKNOWN'
  997 = '997 LESS THAN 14 YRS OLD'
  /
VALUE SPOCH13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 NOT MARRIED/NO SPOUSE'
   3 = '3 UNDER 14 INAPPLICABLE'
   /
VALUE STEMP13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 UNABLE TO DO'
   /
VALUE STPDF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 COMPLETELY UNABLE TO DO IT'
   5 = '5 COMPLETELY UNABLE TO WALK'
   /
VALUE STPMS11F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE TRIMM13F
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE UNABL13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE VARPSU
   1 - 9 = '1 - 9'
   /
VALUE VARSTR
   1 - 253 = '1 - 253'
   /
VALUE WGTPOI13F
   0 = '0 ZERO WGT'
   522.440591 - 54431.39585 = '522.440591 - 54431.395858 WEIGHT'
   /
VALUE WGTSF13F
   0 = '0 ZERO WGT'
   649.316588 - 56826.473562 = '649.316588 - 56826.473562 WEIGHT'
   /
VALUE WLKDF13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 NO DIFFICULTY'
   2 = '2 SOME DIFFICULTY'
   3 = '3 A LOT OF DIFFICULTY'
   4 = '4 UNABLE TO DO'
   /
VALUE WLKLA13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
VALUE WRKLS13F
  -9 = '-9 NOT ASCERTAINED'
  -8 = '-8 DK'
  -7 = '-7 REFUSED'
  -1 = '-1 INAPPLICABLE'
   1 = '1 YES'
   2 = '2 NO'
   /
```