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Language for Network Visualization

Prerequisite:

1. Install flex.

   for linux,

```
sudo apt-get install flex
```

2. Install bison.

   for linux,

```
sudo apt-get install bison
```

3. To run .dot files install.

   for linux,

```
sudo apt-get install graphviz
```

How to run:

1. Type out the input in file "input.txt".

2. Run the "run.sh" bash file using the following command on your terminal.

```
bash run.sh
```

run.sh

```
flex lex.l
yacc -d yacc.y
gcc lex.yy.c y.tab.c -o network_visualizer
./network_visualizer input.txt > output.dot
dot -Tpng output.dot -o output.png
```

Refer to the keywords section for syntax.

Output:

Output is a .dot file named "output.dot".

The visual representation of the network is "output.png" file.

Notes:

input.txt and all other file have to be placed in the same directory.

Commands have to be sepearated by whitespace.

Keywords:

1. node

   Command: node name

   Creates a node "name". "name" has to start with an alphabet or underscore and can be followed by alphabets, underscore or integers.

   Example: node A

   Command: node name integerLabel

   Creates a node "name" with an integer label.

   Example: node A 10

2. addLabelNum

   Command: addLabelNum nodeName integerLabel

   Changes a node's integer label to a new integer label. If node doesn't exist it creates a new node.

   Example: addLabelNum A 10

3. connect

   Command: connect node1 node2

   Creates an edge between node1 and node2. If node doesn't exist it creates a new node.``

4. color

   Command: node name color=colorName

   Creates a node "name" with color "colorName".

   Example: node A color=green

   Command: connect node1 node2 color=colorName

   Creates an edge between node1 and node2 with color "colorName".

   Example: connect A B color=green

5. weight

   Command: connect node1 node2 weight=edgeWeight

   Creates an edge between node1 and node2 with weight "edgeWeight". Default weight for each edge is 1.

   Example: connect A B weight=10

6. title

  Command: title=networkTitle

  Adds title to the network/graph.

  Example: title=graph

Sample Input:

title=test

node A color = blue

node B

node C 5

connect A B weight=10

connect A B color=pink

connect A C color=red

connect A D color=green

addLabelNum A 10

addLabelNum C 10

Sample Output:

strict graph G {

    label="test";

    A [color="blue"];

    B [label="B"];

    C [label="C\n5"];

    A -- B [weight=10][label="w=10"];

    A -- B [color="pink"];

    A -- C [color="red"];

    A -- D [color="green"];

    A [label="A\n10"];

    C [label="C\n10"];

}