```
 1 "C:\Users\Manu\Desktop\master course\Algorithmics and
   Data Management - 2022\practicals\venv\Scripts\
   python.exe" "C:\Users\Manu\Desktop\master course\
   Algorithmics and Data Management - 2022\practicals\
   project 2\1st breadth search.py"
 2 1  Step:
 3  [('Besancon', 'F'), ('Bern', 'CH'), ('Aosta', 'I
   '), ('Sion', 'CH'), ('Turin', 'I'), ('Lausanne', 'CH
   '), ('Villeurbanne', 'F')]
 4
 5 2 Steps:
 6  [('Dijon', 'F'), ('Nancy', 'F'), ('Aarau', 'CH'), ('
   Biel', 'CH'), ('Solothurn', 'CH'), ('Nice', 'F'), ('
   Monaco', 'MC'), ('Novara', 'I'), ('Piacenza', 'I
   '), ('Milan', 'I'), ('Lyon', 'F'), ('Grenoble', 'F
   '), ('Saint Etienne', 'F')]
 7
 8 3 Steps:
 9  [('Koblenz', 'D'), ('Luxembourg', 'L'), ('Metz', 'F
   '), ('Saarbrucken', 'D'), ('Arlon', 'B'), ('
   Strasbourg', 'F'), ('Marseille', 'F'), ('Genua', 'I
   '), ('Aix en Provence', 'F'), ('Toulon', 'F'), ('
   Ajaccio', 'F'), ('Bologna', 'I'), ('Rimini', 'I'), ('
   Modena', 'I'), ('Ferrara', 'I'), ('Reggio nellEmilia
   ', 'I'), ('Forli', 'I'), ('Ravenna', 'I'), ('Parma
   ', 'I'), ('Vaduz', 'FL'), ('Monza', 'I'), ('Brescia
   ', 'I'), ('Bergamo', 'I'), ('Clermont Ferrand', 'F')]
10
11 4 Steps:
12  [('Leverkusen', 'D'), ('Bonn', 'D'), ('Schaffhausen
   ', 'CH'), ('Krefeld', 'D'), ('Mannheim', 'D'), ('
   Nijmegen', 'NL'), ('Basel', 'CH'), ('Rotterdam', 'NL
   '), ('Ludwigshafen', 'D'), ('Koln', 'D'), ('Karlsruhe
   ', 'D'), ('Mainz', 'D'), ('Kaiserslautern', 'D'), ('
   Chur', 'CH'), ('Neuss', 'D'), ('Wiesbaden', 'D'), ('
   Duisburg', 'D'), ('Arnhem', 'NL'), ('Dusseldorf', 'D
   '), ('Liege', 'B'), ('Reims', 'F'), ('Chalons en
   Champagne', 'F'), ('Hasselt', 'B'), ('Namur', 'B
   '), ('Mulhouse', 'F'), ('Stuttgart', 'D'), ('
   Montpellier', 'F'), ('La Spezia', 'I'), ('Cagliari
   ', 'I'), ('Firenze', 'I'), ('San Marino', 'RSM'), ('
```

```
12 Trento', 'I'), ('Venice', 'I'), ('Bolzano', 'I'), ('
     Bregenz', 'A')]
13
14 5 Steps:
15  [('Munster', 'D'), ('Bielefeld', 'D'), ('Paderborn
     ', 'D'), ('Bergisch Gladbach', 'D'), ('Remscheid', 'D
     '), ('Solingen', 'D'), ('Dortmund', 'D'), ('
     Recklinghausen', 'D'), ('Siegen', 'D'), ('
     Gelsenkirchen', 'D'), ('Bochum', 'D'), ('Aachen', 'D
     '), ('Hagen', 'D'), ('Oberhausen', 'D'), ('Hamm', 'D
     '), ('Bottrop', 'D'), ('Wuppertal', 'D'), ('Mulheim
     an der Ruhr', 'D'), ('Herne', 'D'), ('Monchengladbach
     ', 'D'), ('Witten', 'D'), ('Moers', 'D'), ('Essen', '
     D'), ('Heilbronn', 'D'), ('Pforzheim', 'D'), ('Ulm
     ', 'D'), ('Heidelberg', 'D'), ('Freiburg im Breisgau
     ', 'D'), ('Reutlingen', 'D'), ('Leiden', 'NL'), ('s
     Gravenhage', 'NL'), ('Dordrecht', 'NL'), ('Darmstadt
     ', 'D'), ('Wurzburg', 'D'), ('Kassel', 'D'), ('
     Frankfurt am Main', 'D'), ('Offenbach am Main', 'D
     '), ('Brussels', 'B'), ('Mons', 'B'), ('Maastricht
     ', 'NL'), ('Antwerp', 'B'), ('Heerlen', 'NL'), ('
     Amsterdam', 'NL'), ('Ghent', 'B'), ('Geleen', 'NL
     '), ('Lille', 'F'), ('Perpignan', 'F'), ('Nimes', 'F
     '), ('Tunis', 'TN'), ('Sassari', 'I'), ('Perugia', 'I
     '), ('Pisa', 'I'), ('Prato', 'I'), ('Livorno', 'I
     '), ('Ancona', 'I'), ('Verona', 'I'), ('Innsbruck', '
     A'), ('Trieste', 'I'), ('Vicenza', 'I'), ('Padova', '
     I')]
16 None
17
18 Process finished with exit code 0
19
```