

## 2.6 Travelling salesmen

Each clue is a sentence of the form “[City] is very beautiful” written in some foreign language. Respectively, the cities and (languages) are:

- Athens, Greece (Bulgarian)
- Aydin, Turkey (Russian)
- Cagliari, Italy (Arabic)
- Dublin, Ireland (Portuguese)
- Frankfurt, Germany (French)
- Jerusalem, Israel (Turkish)
- Lisbon, Portugal (Irish)
- Lviv, Ukraine (Greek)
- Oran, Algeria (Arabic)
- Rostov-on-Don, Russia (Georgian)
- Roen, France (Spanish)
- Sofia, Bulgaria (Croatian)
- Split, Croatia (Ukrainian)
- Tbilisi, Georgia (Hebrew)
- Zaragoza, Spain (Italian)

Observe that each language used in the puzzle is the official language of one of the countries occurring in the puzzle. This suggests that the sentence about Athens, Greece (in Bulgarian) is being said in Sofia, Bulgaria. The title of the puzzle being Travelling Salesmen, we can imagine a salesman whose route has taken him from Athens to Sofia. Altogether we obtain four separate routes, three of which are loops and one of which is a path (with Oran, Algeria connecting to itself):

- $\dots \rightarrow \text{Athens} \rightarrow \text{Sofia} \rightarrow \text{Split} \rightarrow \text{Lviv} \rightarrow \text{Athens} \rightarrow \dots$
- $\dots \rightarrow \text{Aydin} \rightarrow \text{Rostov-on-Don} \rightarrow \text{Tbilisi} \rightarrow \text{Jerusalem} \rightarrow \text{Aydin} \rightarrow \dots$
- $\dots \rightarrow \text{Dublin} \rightarrow \text{Lisbon} \rightarrow \text{Dubin} \rightarrow \dots$
- $\text{Frankfurt} \rightarrow \text{Rouen} \rightarrow \text{Zaragoza} \rightarrow \text{Cagliari} \rightarrow \text{Oran} \rightarrow \text{Oran}$

Plotting these paths on a map gives the following. (This image was produced at the Great Circle Mapper: <http://www.gcmap.com>.)



The answer to the puzzle is 1540.