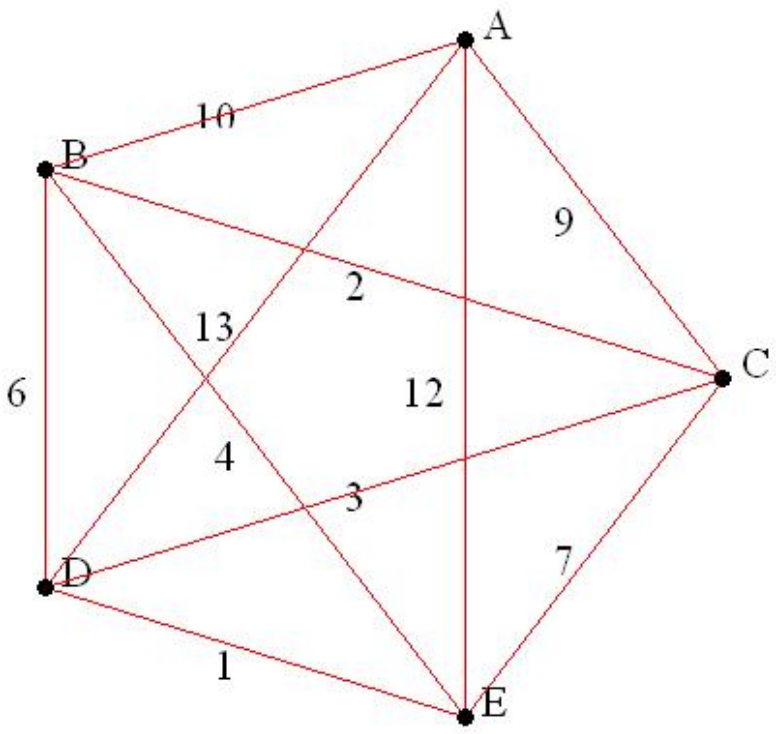
**Example** We are interested in finding the minimum cost Hamiltonian circuit for the following complete graph.

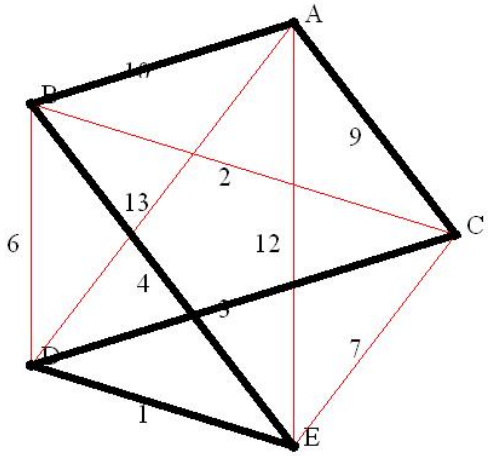



Since this is a complete graph with 5 vertices, it has $(5-1)!/2 = 12$ different Hamiltonian circuits.

**Brute Force**

Here are the results of the brute force method to find the minimum-cost Hamiltonian circuit:

| Hamiltonian Circuit | Cost (Distance Travelled) |
|---|---|
| ABCDEA | 28 |
| ABCEDA | 33 |
| ABDCEA | 38 |
| ABDECA | 33 |
| ABEDCA | 27 |
| ABECDA | 37 |
| ACBDEA | 30 |
| ACBEDA | 29 |
| ACEBDA | 39 |
| ACDBEA | 34 |
| ADBCEA | 40 |
| ADCBEA | 34 |




The minimum cost Hamiltonian circuit (shown above) is ABEDCA with cost of 27.