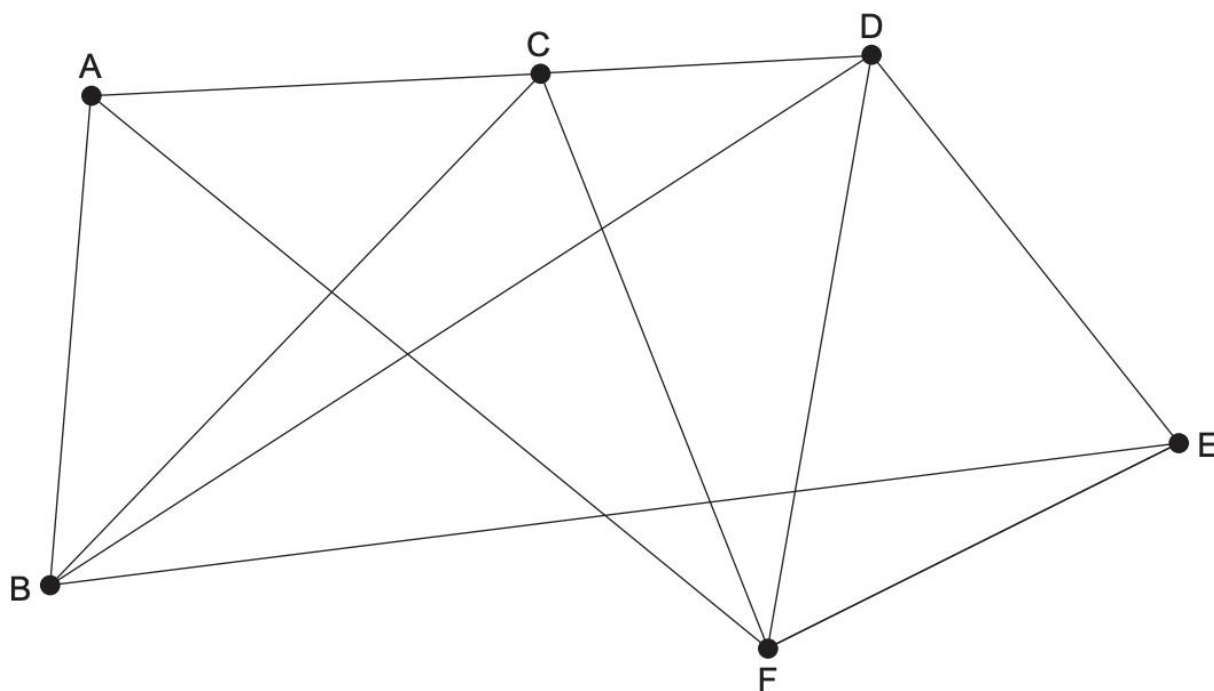


Question 12**(7 marks)**

An event organiser is setting up a music festival with multiple stages. The graph below shows the stages as vertices, and the edges are the walkways that connect each stage.



- (a) To avoid congestion, the organisers want to move the stages and re-position some connecting walkways so no walkways intersect. Redraw the graph to meet these conditions. (2 marks)

(b) Use Euler's formula, stating the number of vertices, edges and faces, to verify that this graph is planar. (2 marks)

(c) State a reason why the graph is not Eulerian. (1 mark)

One attendee wishes to visit every stage to make the most of the festival.

(d) (i) Write down a pathway the attendee can take to visit every stage exactly once if they start at Stage F. (1 mark)

(ii) What is the name given to this path? (1 mark)