Managing complexity

The following module assesses skills that are important for successfully dealing with complexity and efficient self-organisation in training, studies and professional life.

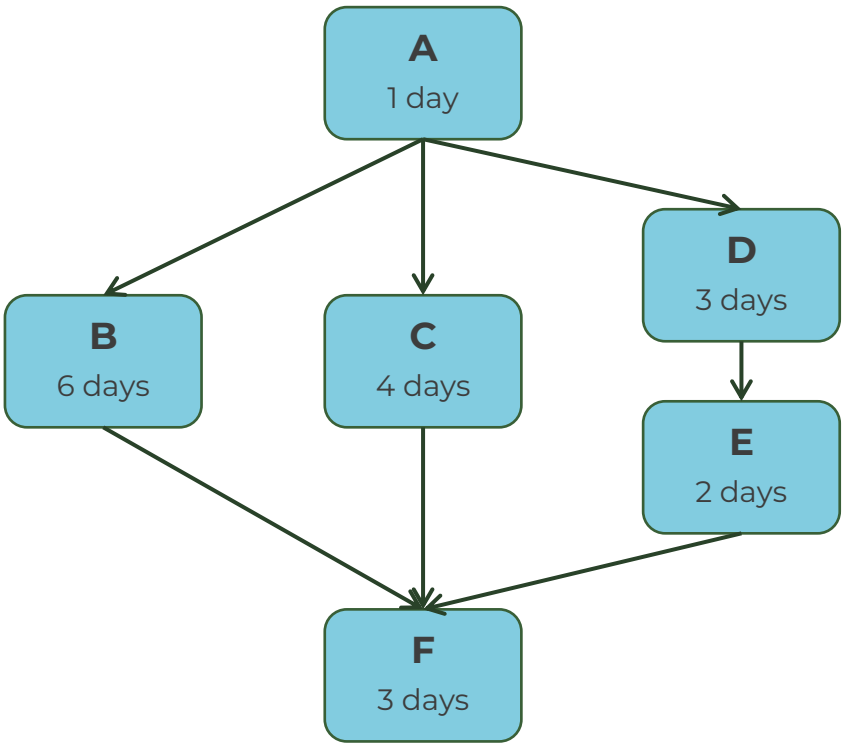
You will be given various scenarios with information and plans. Each scenario usually includes two to three items. To answer the items, you must draw correct conclusions from the information provided, check or complete plans, or adapt existing plans.

You have 15 minutes to complete the following 8 sample tasks.

Scenario 1

A plan was drawn up for a project with seven project phases (A to F). The plan shows the project phases from the start of the project at the top to the end at the bottom. Each project phase can only begin once the previous phase, to which it is linked by a line, has been completed. The duration of the project phases is also noted.

The following plan has been drawn up for the project:



1. How long will the project take at least?

(A) 8 days
(B) 9 days
(C) 10 days
(D) 12 days

2. During project phase A, it becomes apparent that an additional project phase X is necessary.

Which of the following statements about the project phase X is or are correct?

I. If project phase X lasts 3 days and is to take place between project phases D and E, the minimum duration of the project is extended by two days.

II. If project phase X lasts 2 days and is to take place between project phases A and C, the minimum duration of the project is extended by one day.

(A) Only statement I is correct.
(B) Only statement II is correct.
(C) Both statements are correct.
(D) Neither of the two statements is correct.

Scenario 2

For a project, employees (A to F) must be scheduled for the coming week. Scheduling is always done for half a day (= 4 hours).

So far, the following schedule is available:

	Monday	Tuesday	Wednesday	Thursday	Friday
morning	employee A	employee C	employee D		employee F
afternoon	employee B		employee B	employee E	employee E

One employee still needs to be scheduled for each of the two free time slots.

The following conditions apply:

- Each employee commits to a maximum of 8 hours per week for this project
- The 8 hours are never taken consecutively (not even across days)

3. Which of the employees can be assigned to work on Tuesday afternoon under the specified conditions?

(A) employee B
(B) employee D
(C) employee E
(D) employee F

4. Which of the following statements about the scheduling is or are then correct?

I. Thursday morning can be taken by any employees who are currently only assigned for 4 hours in the schedule.

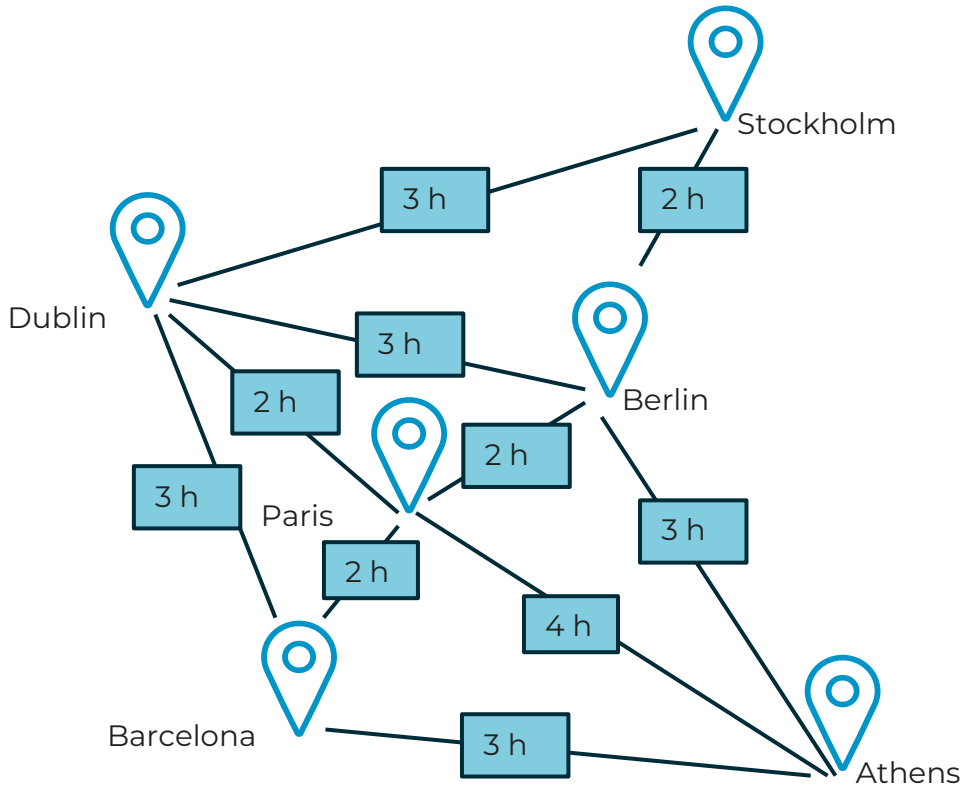
II. If employee B is absent, no plan for the project can be created under the given conditions.

(A) Only statement I is correct.
(B) Only statement II is correct.
(C) Both statements are correct.
(D) Neither of the two statements is correct.

Scenario 3

The managing director has various appointments throughout Europe next week. The business trip starts at the headquarters in Berlin and will end there after all stops have been made. It is possible to return to Berlin in between, but this is not necessary.

The figure shows the various destinations on the business trip and the travel time between each destination. There are direct connections between some destinations, while others require travel via other destinations. The managing director has an appointment at each destination.



5. What is the minimum total travel time if all destinations are visited at least once?

(A) 12 hours
(B) 15 hours
(C) 16 hours
(D) 17 hours

6. Which of the following statements about planning the business trip is not correct?

(A) The total travel time for the business trip is reduced if no return to Berlin is included between destinations.
(B) There are 8 different routes from Dublin to Athens if traveling via a maximum of two stopovers.
(C) From Stockholm to Barcelona, you can choose a route via two stopovers or via only one stopover with the same travel time.
(D) The sum of the individual travel times to the other five destinations is shorter when starting from Paris than when starting from Berlin.

Scenario 4

For a large trade fair, various appointments were made in advance with potential suppliers at the company's respective booth. 60 minutes are scheduled for each appointment. The planned start time is 9:30 a.m. for the first appointment.

The following plan has been drawn up for the trade fair day:

Start times	Appointment with...
9:30 a.m.	Noetherus & Co.
11:00 a.m.	KTO IT Ltd.
13:00 p.m.	Thinkure LLP
14:30 p.m	Qelari AG.
16:00 p.m	Innovation Ltd.

The walking times from one booth to another are shown in the following matrix:

	Thinkure LLP	Noetherus & Co	Innovation Ltd.	Qelari AG	KTO IT Ltd.
Thinkure LLP		20 minutes	30 minutes	30 minutes	10 minutes
Noetherus & Co	20 minutes		20 minutes	30 minutes	10 minutes
Innovation Ltd.	30 minutes	20 minutes		10 minutes	20 minutes
Qelari AG	30 minutes	30 minutes	10 minutes		20 minutes
KTO IT Ltd.	10 minutes	10 minutes	20 minutes	20 minutes	

7. Which of the following statements about the appointments at the trade fair is or are then correct?

I. The walking time between all appointments totals more than 60 minutes.

II. Exactly one of the scheduled appointments must end on time so that the following appointment can be kept.

(A) Only statement I is correct.
(B) Only statement II is correct.
(C) Both statements are correct.
(D) Neither of the two statements is correct.

8. Assuming that the exhibiting company, which has its booth directly next to KTO IT Ltd., is also a potential supplier and that at least 15 minutes should be invested in taking a closer look at the products. The travel times for KTO IT Ltd. can be used for planning, and a travel time of 0 minutes between KTO IT Ltd. and the other supplier can be assumed.

Which of the following statements about the other potential supplier is or are then correct?

I. The products can be viewed directly before the arranged appointment with KTO IT Ltd. without affecting the schedule.

II. The products can be viewed directly after the arranged appointment with KTO IT Ltd. without affecting the schedule.

(A) Only statement I is correct.
(B) Only statement II is correct.
(C) Both statements are correct.
(D) Neither of the two statements is correct.

Correct answers

1. C
2. A
3. D
4. A
5. B
6. D
7. B
8. C