

## Itinerary Planning Assignment

*Instructor:* Narayan Rangaraj*Name:* Student name(s), *RollNo:* Roll(s)**Problem 1: Itinerary Design**

Lakshadweep is a group of islands off south western coast of India, and has a lots of scenic and Beautiful Untouched Beaches and Lagoons worth exploring. The mode of transport however, is limited to Govt. operated Ships that mainly ply between Mainland India (Kochi and Mangalore port) and the islands of Lakshadweep. The prime purpose of these Ships is to satisfy the needs of the Islanders that depend solely on supplies from Mainland India. Hence, the Ship Schedule is mostly dependent on the Cargo needs of each Island and is prepared fresh every month and frequency is very low. The seat availability is very limited and gets filled within a couple of days of Ship Schedule announcement for any given month, but the ticket availability is out of scope of this assignment and should be ignored. You are planning to go on a trip to Lakshadweep and are trying to find some possible itineraries for the trip.

An HTML page of the schedule and an image is attached with this assignment and a starter code to parse the schedule into a `pandas.DataFrame` is provided.

(a) How will you find the possible itineraries for the trip to Lakshadweep. Suggest/Develop a method/algorithm for the same.

(b) Though not solely expected, you may try to code the algorithm in python, for which the starter code of parsing the schedule in `pandas.DataFrame` is provided.

Date	Amindivi	Arabian Sea	Bharat Seema	Coralis	Kavaratti	Lagoons	Lakshadweep Sea	Minicoy
04/03/2019	Bey pore - 17:00						Kochi - 11:30	
05/03/2019	Androth - 10:00 Kalpeni - 10:00			Kochi - 13:30	Kochi - 20:00		Bitra - 09:00 Chetlat - 13:00 Kiltan - 17:00	
06/03/2019	Mangalore - 10:00			Kavaratti - 09:00 Amini - 13:00 Kadmat - 17:00	Kalpeni - 09:00 Androth - 13:00 Kalpeni - 17:00		Agatti - 10:00 Kavaratti - 17:00	Mangalore - 12:30
07/03/2019	Mangalore - 11:00	Kochi - 13:00		Kochi - 10:00	Minicoy - 13:30	Kochi - 13:00	Kochi - 10:00	Kavaratti - 10:00 Agatti - 15:00
08/03/2019	Kiltan - 10:00 Chetlat - 15:00	Minicoy - 13:00			Kavaratti - 09:00 Agatti - 13:00 Kavaratti - 17:00	Kavaratti - 10:00 Agatti - 17:00		Bey pore - 07:00
09/03/2019	Mangalore - 07:00	Kochi - 10:00		Kochi - 17:00	Kochi - 10:00	Amini - 10:00 Kadmat - 17:00	Kochi - 13:00	Bey pore - 13:00
10/03/2019	Mangalore - 13:30	Kochi - 13:00		Androth - 10:00 Kalpeni - 17:00		Kochi - 10:00	Kavaratti - 09:00 Amini - 13:00 Kadmat - 17:00	Chetlat - 10:00 Kiltan - 16:00
11/03/2019	Amini - 09:00 Kadmat - 13:00 Kavaratti - 17:00	Minicoy - 13:00		Kochi - 10:00			Kochi - 10:00	Bey pore - 08:00
12/03/2019	Mangalore - 09:00	Kochi - 10:00						
13/03/2019				Kochi - 13:00			Kochi - 13:00	
14/03/2019				Kavaratti - 10:00 Agatti - 17:00		Kochi - 12:00	Kadmat - 09:00 Amini - 12:00 Kavaratti - 17:00	
15/03/2019				Kiltan - 09:00 Chetlat - 11:30 Bitra - 16:00		Agatti - 10:00 Kavaratti - 16:00	Kochi - 10:00	
16/03/2019				Kochi - 10:00		Kochi - 10:00		
17/03/2019							Kochi - 13:00	
18/03/2019				Kochi - 13:00			Minicoy - 15:00	
19/03/2019				Kavaratti - 09:00 Amini - 14:00 Kadmat - 16:00		Kochi - 13:00	Kochi - 07:00	
20/03/2019				Kalpeni - 10:00 Androth - 16:00		Minicoy - 17:00		
21/03/2019				Kochi - 07:00		Kalpeni - 10:00 Androth - 16:30	Kochi - 12:00	
22/03/2019						Kochi - 07:00	Agatti - 10:00 Kavaratti - 16:00	
23/03/2019							Kochi - 09:00	

Figure 1: Sample Schedule