



Student: _____
Student ID: _____ Group: _____ Date: _____

1ST PRACTICAL EVALUATION

Three beings, a human (H), an octopus (O) and a Mokey(M) arrive into a world with a specific mission, their initial point is indicated in the map. They already get a complete world map, besides everybody speak a common language and are able to communicate between them. In order to open the portal (P) to return, is necessary to make the following (order doesn't matter).

- Get the portal key, identified in the map by letter (K)
- Destroy the dark temple identified in the map by letter (T)
- Get the 3 magic stones that serves as source of energy identified in the map by letter (S)

	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15
1															
2															
3															S
4															
5															
6															
7															
8															
9															
10		O													
11															
12															
13				P											
14			H		M										
15														K	

Consider that every one of the members have advantage over certain terrain and disadvantage in others, as is showed next

Color	Means	Cost movement		
		Human	Monkey	Octopus
	Mountain	N/A	N/A	N/A
	Earth	1	2	2
	Water	2	4	1
	Sand	3	3	N/A
	Forest	4	1	3

Where N/A means that the being is not allowed to access cells with that terrain type



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Also consider:

- A. The simple fact of arriving the cell with a sub objective means accomplish it, except for the portal that have special specifications listed below.
- B. To activate the portal all the sub objectives have to be accomplished and all the team members have to be in the cell portal.
- C. Two or more individual could be in the same cell at the same time without problem.

The purpose is to accomplish the mission in the lowest cost possible. So we want to distribute the mission between the team members. So find the following:

- 1. Calculate the cost of every individual to every objective, and then to the portal. Filling the following table:

	Total Cost					
Individual	I-T	I-T-P	I-S	I-S-P	I-K	I-K-P
Human						
Monkey						
Octopus						

Where:

I→ Start point of the individual

T→ Dark Temple

S→ Magic Stones

K→Key

P→Portal

For example, in the intersection of human and I-T write the total cost of the best path for the human from the start point to the dark temple, in the intersection of human with I-T-P, write the total cost of going to the dark temple and from there to the portal.

- 2. The system must assign every individual to the best suited mission, fill the following table and show the path followed for everyone in the map.

Individual	Mission Assigned	Total Cost	
		To objective	To portal (after accomplish objective)
Human			
Monkey			
Octopus			