

GEM 1501 Problem Solving With Computers

Assignment 03: The Weary Traveler

1. Implement the Weary Traveler algorithm described in the textbook. For that, write a function

```
fun {ShortestPath Edges Nodes Source Target}  
  ...  
end
```

that returns the shortest path from Node A to Node B.

Example: I should be able to call your function as follows:

```
declare
```

```
ExampleNodes =  
[ a b c d e f g ]
```

```
ExampleEdges =  
[  
  edge(a c 5)  
  edge(a d 3)  
  edge(a g 14)  
  edge(c d 11)  
  edge(c e 3)  
  edge(c f 2)  
  edge(d e 7)  
  edge(d g 6)  
  edge(e b 5)  
  edge(f b 7)  
  edge(g b 5)  
  edge(g e 7)  
]
```

```
{Browse {ShortestPath ExampleEdges ExampleNodes a b}}
```

In this case, the Oz Browser should display the following set of edges in this order:

```
[ edge(a c 5) edge(c e 3) edge(e b 5) ]
```

2. Submit your program as a file with the name `shortestpath.oz` as attachment in an email with the subject line “GEM1501 Assignment 3 Submission” by Monday 15/2, 12 noon. Your file `shortestpath.oz` should look like this:

```
declare
fun {... ...}
  ...
end
fun {... ...}
  ...
end
.
.
.
fun {ShortestPath Edges Nodes Source Target}
  ...
end
```

Please do not include any test data in your program. Thanks.