```
struct secondValueComp {
	constexpr bool operator()(
		std::pair<int, int> const& a,
		std::pair<int, int> const& b)
		const noexcept
	{
		return a.second > b.second;
	}
};

std::pair<std::map<int, int>, int> Graph::djikstra(int s, int t)
{
	if (this->nout.find(s) != this->nout.end() && this->nout.find(t) != this->nout.end()) // check if the two given vertices exist
	{
		std::priority_queue<std::pair<int, int>, std::vector<std::pair<int, int>>, secondValueComp> q; // create a min heap priority queue,
		// sorted by the second element of the pair, which is the priority
		std::map<int, int> prev; // a map that associates, to each accessible vertex, the cost of the minimum cost walk from s to it
		std::map<int, int> dist; // a map that maps each accessible vertex to its predecessor on a path from s to it
		int x;
		q.push(std::make_pair(s, 0));
		dist[s] = 0;
		bool found = false;
		while (!q.empty() && !found)
		{
			x = q.top().first; // gets the element with minimum value of priority
			q.pop(); // then dequeues it
			for (int y : this->parse_nout(x))
			{
				if (dist.find(y) == dist.end() || dist[x] + this->get_cost(x, y) < dist[y])
				{
					dist[y] = dist[x] + this->get_cost(x, y);
					q.push(std::make_pair(y, dist[y]));
					prev[y] = x;
				}
			}
			if (x == t)
			{
				found = true;
			}
		}
		if (found == true) // check if there is a path between the two vertices
			return std::make_pair(prev, dist[t]); // returns prev and the the cost of the minimum cost walk from s to t
		else
			throw "No path found";
	}
	else
	{
		throw "Invalid vertices";
	}
}
```