

## NAME

PathGraph

## SYNOPSIS

```
use PathGraph;

use PathGraph qw(:all);
```

## DESCRIPTION

PathGraph class provides the following methods:

`new`, `CollapseVertexAndCollectCyclicPaths`, `DeleteVerticesWithDegreeLessThan`, `GetCyclicPaths`, `GetPaths`, `IsPathGraph`, `StringifyPathGraph`

PathGraph class is derived from *Graph* class.

## METHODS

`new`

```
$NewPathGraph = new PathGraph($Graph);
```

Using specified *Graph*, `new` method creates a new PathGraph object and returns newly created PathGraph object.

*Graph* is converted into a PathGraph by copying all its vertices and edges without any associated properties data and associating a *Path* object to each edge containing edge vertex IDs as initial path.

`CollapseVertexAndCollectCyclicPaths`

```
$PathGraph->CollapseVertexAndCollectCyclicPaths($VertexID);
```

Collapses paths around a *VertexID* by updating paths around the vertex [Ref 31] and associating any resulting cyclic paths to graph as *CyclicPaths* property name. And returns *PathGraph*.

`DeleteVerticesWithDegreeLessThan`

```
$Return = $PathGraph->DeleteVerticesWithDegreeLessThan($Degree);
```

Deletes vertices with degree less than *Degree* from *PathGraph* and returns *PathGraph*.

`GetCyclicPaths`

```
@CyclicPaths = $PathGraph->GetCyclicPaths();
$NumOfPaths = $PathGraph->GetCyclicPaths();
```

Returns an array of cyclic *Paths* associated with edges in *PathGraph*. In scalar context, number of cyclic paths is returned.

`GetPaths`

```
@Paths = $PathGraph->GetPaths();
$NumOfPaths = $PathGraph->GetPaths();
```

Returns an array of *Paths* associated with edges in *PathGraph*. In scalar context, number of paths is returned.

`IsPathGraph`

```
$Status = PathGraph::IsPathGraph($Object);
```

Returns 1 or 0 based on whether *Object* is a PathGraph object.

`StringifyPathGraph`

```
$String = $PathGraph->StringifyPathGraph();
```

Returns a string containing information about traversed paths in *PathGraph* object.

## AUTHOR

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## SEE ALSO

Graph.pm, Path.pm

## COPYRIGHT

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