Thread Rendezvous

Synchronising threads

Thread 1 executes:

```
handle1.Set();
handle2.WaitOne();
```

Thread 2 executes:

```
handle1.WaitOne();
handle2.Set();
```

Thread rendezvous

The process of aligning two or more threads in time, to execute the same part of code simultaneously.

Using AutoResetEvent

- The work method is no longer generic

- This technique can only synchronise two threads

Using CountdownEvent

- The work method is generic

- This technique can synchronise any number of threads

- The rendezvous only works once. After one rendezvous the gate is open and needs to be closed with a call to Reset.

Using Barrier

- Barrier can use a generic work method

- Barrier can synchronise any number of threads

- Barrier can be used multiple times

Barrier class advantages

- The Barrier class can be used with a generic work method

- The Barrier class can synchronise any number of threads

- The Barrier class can be used multiple times

- The Barrier class can optionally execute custom code at the exact moment when all threads line up at the barrier

Thread Rendezvous

Thread rendezvous is the process of aligning two threads in time to execute the same part of code simultaneously

- Can be implemented with two AutoResetEvents, but this requires distinct work methods and only works for two threads
- Can also be implemented with a CountdownEvent. But this only works once and cannot be used in a loop

The recommended way to implement thread rendezvous is with the Barrier class