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Design Patterns
Assignment - 1

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1. Sample code of Flyweight pattern

```
class FlyweightFactory
{
  public:
      virtual Glyph();
      virtual void draw(window*, GlyphContext);
      virtual void setFont(Font*, GlyphContext);
      virtual void first(Insert(Glyph*, Glyphcontext);
      virtual void Remove(GyphContext);
  protected:
      Glyph();
};
```

2. Instrinsic:- State is stored in the Flyweight; it consists of information that Independent of the Flyweight context' there by making it sharable.

Extrinsic:- State depends on the varies with the Flyweight context and therefore can't be shared.

3. Effects of Flyweight pattern:-

The Flyweights may introduce run-time costs associated with tranfering, finding and/or computing extrinsic state, especially if it was formely stored as intrinsic state.

- The more flyweight are shared the greater the storage savings.

- The Flyweight is often composed with the composite pattern to represent a hierarchical structure as a graph with shared leaf nodes.

4. Implementations for Flyweights:-

- The pattern applicability is determined largely by how easy it is to identify extrinsic state and remove it form shared objects.
- Flyweight factory objects use an associative store to let clients look up flyweight of interest.

5. Real time Example:-

- we can use pen with / without refill.
- word processor

A classic example usage of the flyweight pattern is the data structure for graphical representation of characters in a word processor.