Text Summarization Techniques

① Stuff Document Chain

② Map Reduce ⟶ Larger files
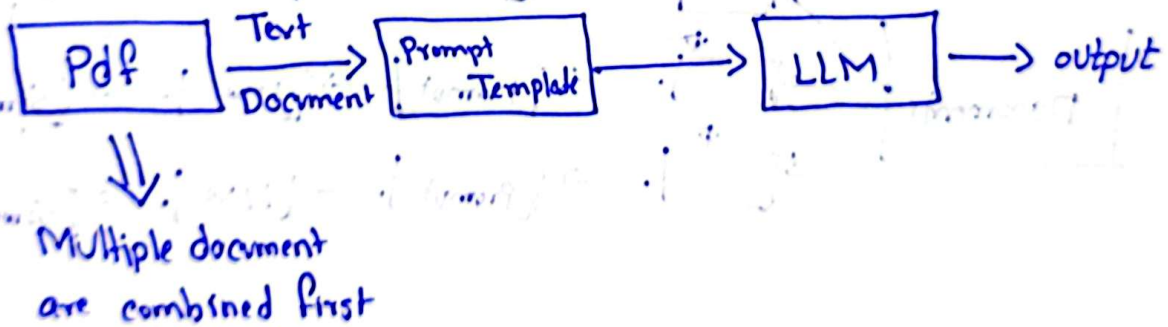   ⤷ Single Prompt Template
     ⤷ Multiple Prompt Template

③ Refine Chain

⟶ Stuff Document Chain

     Most basic type of summarization technique

```
┌───────┐   Text      ┌───────────┐      ┌───────┐
│  Pdf  │ ─────────▶  │  Prompt   │ ───▶ │  LLM  │ ──▶ output
└───────┘  Document   │ Template  │      └───────┘
    │                 └───────────┘
    ⇓
```
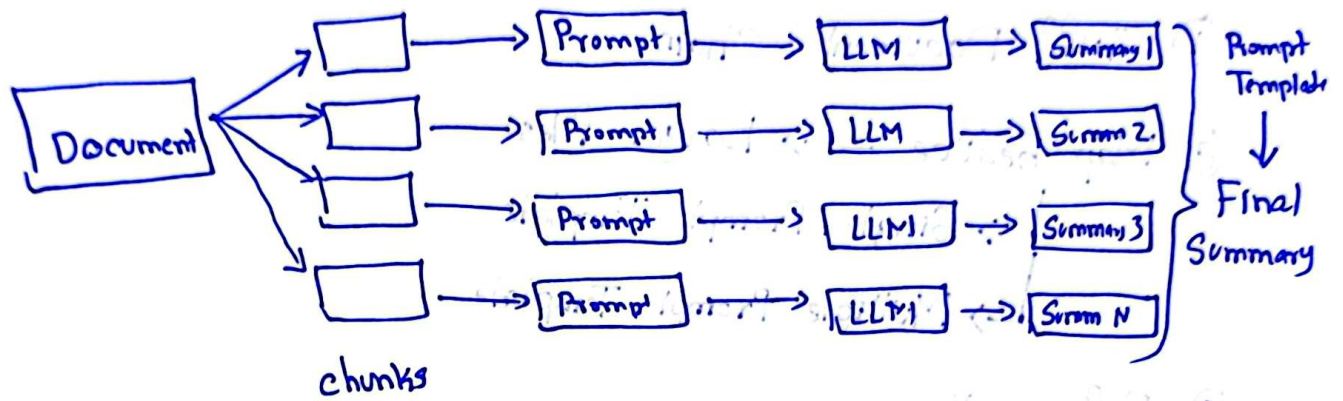
Multiple document
are combined first

Challenges

     ① Documents can become very big

     ② LLM Context size

→ Map Reduce Technique

```
                    ┌──┐ ──→ [Prompt] ·····→ [LLM] ──→ [Summary 1]  ╲  Prompt
                    └──┘                                             │  Template
              ┌→    ┌──┐ ──→ [Prompt] ─····→ [LLM] ──→ [Summ 2]      │     ↓
[Document] ───┤     └──┘                                             ├  Final
              └→    ┌──┐ ──→ [Prompt] ·····→ [LLM] ─→ [Summary 3]    │  Summary
                    └──┘                                             │
                    ┌──┐ ──→ [Prompt] ·····→ [LLM] ─→ [Summ N]       ╱
                    └──┘
                 chunks
```

→ Refine Chain

```
                    ┌──┐ ──→ [Prompt] ──→ [LLM] ──→ [Summary]
                    └──┘                                    │
              ┌→         ←──────────────────────────────────┘
[Documents] ──┤     ┌──┐ ──→ [Prompt] ──→ [LLM] ──→ [Summary]
              │     └──┘                                    │
              └→         ←──────────────────────────────────┘
                    ┌──┐ ──→ [Prompt] ──→ [LLM] ──→ [Summary]
                    └──┘
```