

# Dateien analysieren

```
@Def(file: ana.cpp)
  @put(main prereqs);
  int main(
    int argc, const char *argv[]
  ) {
    @Put(parse args);
    @put(read input);
    @put(write table);
  }
@end(file: ana.cpp)
```




# **Datenstruktur für Statistik**

```
@Def(def collection)
    using Collection =
        std::map<char, int>;
@End(def collection)
```

```
@def(main prereqs)
  #include <map>
  @Put(def collection);
  Collection collection;
@end(main prereqs)
```

```
@add(main prereqs)  
  #include <iostream>  
@end(main prereqs)
```

```
@def(read input)
  @Put(init state);
  char ch;
  while (std::cin.get(ch)) {
    @Put(add to collection);
  }
@end(read input)
```

The background of the slide is a light beige color. It is decorated with a pattern of squares. Most squares are outlined in a light green color. One square, located in the lower-left quadrant, is outlined in a light blue color. The squares are of varying sizes and are scattered across the slide.

```
@Def(add to collection)
  ++collection[ch];
@End(add to collection)
```



```
@def(write table)
  for (const auto &e : collection) {
    @Put(write key);
    std::cout << "\t" <<
      e.second << "\n";
  }
@end(write table)
```

```
@add(main_prereqs)
  #include <cctype>
  void write_byte(char b) {
    if (isprint(b) &&
        b != '%' && b > ' ')
    {
      std::cout << b;
    } else {
      @put(write_escaped);
    }
  }
@end(main_prereqs)
```

```
@def(write escaped)
  static const char digits[] =
    "0123456789abcdef";
  std::cout << '%' <<
    digits[(b >> 4) & 0xf] <<
    digits[b & 0xf];
@end(write escaped)
```

```
@Def(write key)
  write_byte(e.first);
@End(write key)
```