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CS 256

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Project 1: Design

<<interface>> **Cypher**  
public String decryptText(int key) throws InvalidOperationException;

public String decryptText(String key) throws InvalidOperationException;

public void encryptText(String plaintext, int key) throws InvalidOperationException;

public void encryptText(String plaintext, String key) throws InvalidOperationException;

public String getCypherText() throws NoSuchTextException;

public void setCypherText(String text);

[superclass] **CypherText** \*needs better name to avoid confusion\*

\**fields*: String cypherText;

public CypherText() { cypherText = “”}

public String getCypherText() throws NoSuchTextException;

public void setCypherText(String text);

[superclass] **IntKey** extends **CypherText**

\**fields*: int key;

public IntKey(){

super();

key = 0; }

public String decryptText(String key) throws InvalidOperationException;

public void encryptText(String plaintext, String key) throws InvalidOperationException;

[superclass] **StringKey** extends **CypherText**

\**fields*: String key;

public StringKey(){

super();

key = “”; }

public String decryptText(int key) throws InvalidOperationException;

public void encryptText(String plaintext, int key) throws InvalidOperationException;

**NoSuchTextException** extends **RuntimeException**

**InvalidOperationException** extends **Exception**

**Caesar extends IntKey implements Cypher**

public String decryptText(int key) throws InvalidOperationException;

public void encryptText(String plaintext, int key) throws InvalidOperationException;

**RailFence extends IntKey implements Cypher**

public String decryptText(int key) throws InvalidOperationException;

public void encryptText(String plaintext, int key) throws InvalidOperationException;

**OneTimePad extends StringKey implements Cypher**

public String decryptText(String key) throws InvalidOperationException;

public void encryptText(String plaintext, String key) throws InvalidOperationException;

**PlayFair extends StringKey implements Cypher**

public String decryptText(String key) throws InvalidOperationException;

public void encryptText(String plaintext, String key) throws InvalidOperationException;