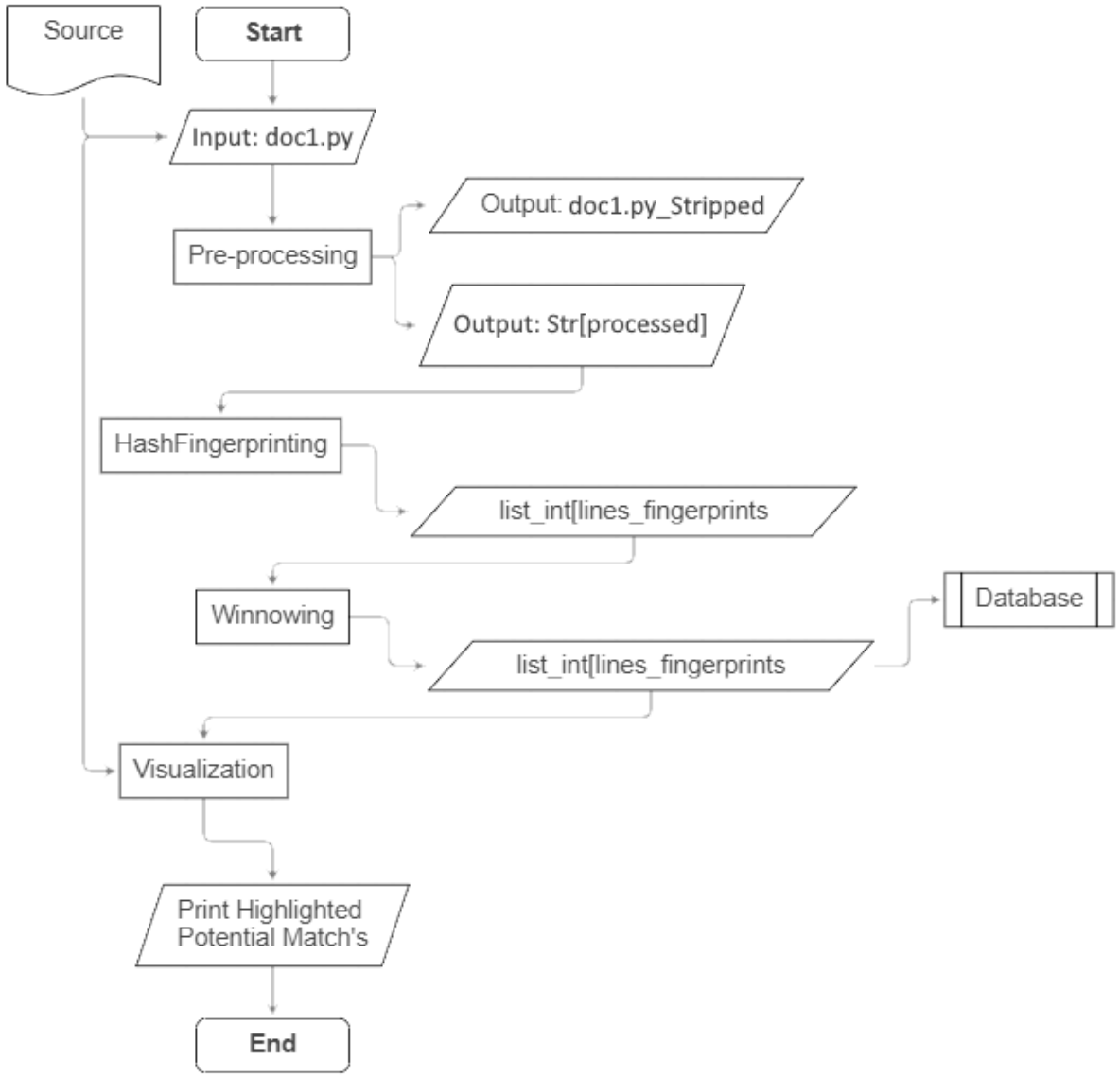
Preprocessing - Chase Jamieson
Hashing/Fingerprinting & Visual - Tracy Hotchkiss & Vinh Duong
Winnowing - Trevor Holland

Pipeline of Plagiarism Detector

Pipeline Interface



Sample of Visualization

```
input file compared to doc1 is:


def numberFunction():

    a = 1 + 2

    b = a + a

    c = b + 1

    return c
```

```
Percentage matched is: 14.925373134328357
```

Contracts

Preprocessing	
Input: source file	Example1 (‘databaseFile1.py’)
Output: stripped source file	Example2 (databaseFile1.py_Stripped)
Output: processed source file	Example3 (Str[processed])

Example1

```
def numberFunction():
    a = 1 + 2
    b = a + a
    c = b + 1
    return c

def stringFunction(input1, input2):
    string1 = "abcd"
    string2 = "cda"
    string3 = string1 + string2
    return string2

def doesNothing():
    a = 1
    b = "b"
    c = True

def arrayAddition(a):
    a = a + [1]

numberFunction()
stringFunction("a","b")
doesNothing()
arrayAddition([4,3,2])
```

Example2

```
def numberFunction():
 a = 1 + 2
 b = a + a
 c = b + 1
 return c
def stringFunction(input1, input2):
 string1 = "abcd"
 string2 = "cda"
 string3 = string1 + string2
 return string2
def doesNothing():
 a = 1
 b = "b"
 c = True
def arrayAddition(a):
 a = a + [1]
numberFunction()
stringFunction("a","b")
doesNothing()
arrayAddition([4,3,2])
```

Example3

```
def fun1():
 var1 = 1 + 2
 var2 = var1 + var1
 var3 = var2 + 1
 return var3
def fun2(var4, input2):
 var5 = "abcd"
 var6 = "cda"
 var7 = var5 + var6
 return var6
def fun3():
 var1 = 1
 var2 = "var2"
 var3 = True
def fun4(var1):
 var1 = var1 + [1]
fun1()
fun2("var1","var2")
fun3()
fun4([4,3,2])
```

Contracts

HashFingerprinting	
Input: processed source file	Example3 ('str[processed]')
Output: fingerprints source file	Example4 (lst[fingerprints])

Example4

```
[([1], 1440), ([1], 1382), ([1], 1265), ([1], 1008), ([1], 1553), ([1], 1514),
```

Contracts

Winnowing	
Input: fingerprints source file	Example4 (lst[fingerprints])
Output: list lines and fingerprints	Example5 (list_int[lines_fingerprints])

Example5

```
[([1], 1440), ([1], 1382), ([1], 1265), ([1], 1008), ([1], 692), ([1, 2], 632),
```

Contracts

Visual	
Input: source file	Example1 ('databaseFile1.py')
Input: list lines and fingerprints	Example5 (list_int[lines_fingerprints])
Output: Print Highlighted Potential Matches with their match percentage	Example6

Sample of Example6

```
input file compared to doc1 is:



def numberFunction():

    a = 1 + 2

    b = a + a

    c = b + 1

    return c

Percentage matched is: 14.925373134328357
```