Code: python file called wordcount_2.py

```python
from mrjob.job import MRJob
from mrjob.step import MRStep

class MRWordCount(MRJob):

    def mapper(self, _, line):
        # Split the line into words
        for word in line.split():
            # Yield each word in lowercase with a count of 1
            yield (word.lower(), 1)

    def reducer(self, word, counts):
        # Sum the counts for each word
        yield (word, sum(counts))

    def steps(self):
        return [
            MRStep(mapper=self.mapper,
                reducer=self.reducer)
        ]

if __name__ == '__main__':
    MRWordCount.run()
```

```
$ python wordcount_2.py file1.txt

No configs found; falling back on auto-configuration

No configs specified for inline runner

Creating temp directory
C:\Users\naale\AppData\Local\Temp\wordcount_2.naale.20241003.210433.775539

Running step 1 of 1...

job output is in
C:\Users\naale\AppData\Local\Temp\wordcount_2.naale.20241003.210433.775539\output

Streaming final output from
C:\Users\naale\AppData\Local\Temp\wordcount_2.naale.20241003.210433.775539\output...
```

"(or"   1

"(or,"   1

"10"   1

"11"   1

"12"   1

"7"   1

"8"   1

"9"   1

"?\u0094"   2

"\u0091back\u0092"   1

"\u0093"   1

"\u0093a"   1

"\u0093and"   1

"\u0093back?" 1

"\u0093but"   3

"\u0093but,\u0094"   1

"\u0093he-who-must-not-be-named!\u0094" 1

"\u0093hogwarts,\u0094" 1

"\u0093how"   1

"\u0093i"   2

"\u0093i\u0092m"	1

"\u0093involved,\u0094" 1

"\u0093it\u0092s"	1

"\u0093lord"	1

"\u0093middle"	1

"\u0093my"	1

"\u0093no"	1

"\u0093no,"	1

"\u0093no,\u0094"	1

"\u0093not"	1

"\u0093now,"	1

"\u0093oh,"	1

"\u0093prime"	1

"\u0093serious\u0094"	1

"\u0093so"	1

"\u0093that"	1

"\u0093the"	2

"\u0093they\u0092ve"	1

"\u0093we"	2

"\u0093we\u0092ll"	1

"\u0093we\u0092re"	1

"\u0093well,"	2

"\u0093what"	1

"\u0093why"	1

"\u0093yes,"	2

"\u0093you\u0092re"	1

"\u0094"	2

"\u0096"	6

"\u0097"	15

"\u0097\u0094" 3

"a"   48

"abandoned"   1

"about" 4

"about."   1

"above" 1

"actually"   1

"added."   1

"affect"   1

"afraid"   2

"again" 2

"again,"   2

"again."   2

"ago," 1

"air"   1

"air," 1

"alive" 1

"alive,"   1

"alive,\u0094" 1

"alive.\u0094" 1

"alive?"   1

"all"   5

"almost"   1

"alone" 2

"aloud" 1

"already"   1

"always"   2

"am"   1

"amber" 1

"amount"   1

"an"   3

"and"   40

"announced"   2

"any"   1

"anybody?\u0094"   1

"anything"   1

"anyway,"   2

"appear"   1

"appeared"   2

"are"   3

"arrangements"   1

"arrival"   1

"arrival."   1

"art"   1

"as"   5

"ask"   2

"assurances"   1

"at"   11

"attempt"   2

"axminster,"   1

"azkaban,\u0094"   1

"azkaban."   1

"back"   1

"back." 1

"back.\u0094"   1

"be"   7

"becoming"   1

"been"   7

"before"   3

"before."   1

"behind."   1

"being" 1

"believe"   1

"best" 1

"better"   2

"beyond"   1

"black" 1

"black,"   1

"black\u0092s" 1

"bleated"   1

"blood" 6

"blustered"   1

"body" 1

"book" 1

"bother"   2

"bowler"   1

"boy"   1

"breakout"   2

"breakout?\u0094"   1

"breath"   1

"breathlessly," 1

"bridge"   1

"bringing"   1

"brockdale"   1

"brought"   1

"builder"   1

"burst" 1

"but"   10

"by"   2

"cabinet"   1

"called"   2

"came"   1

"campaign."   1

"can\u0092t"   1

"canvas"   1

"carpenters,"   1

"cast"   1

"certain"   1

"certainly"   1

"chair."   1

"chancellor"   1

"chewing"   1

"chin," 1

"chorley\u0092s"   1

"chortling,"   1

"cloak" 1

"come"   2

"committed"   1

"community?\u0094"   1

"concerns"   1

"concerns,\u0094"   1

"conjured"   1

"considerable" 1

"control"   1

"conversation" 1

"convince"   1

"corner"   2

"could" 4

"country"   1

"country.\u0094"   1

"course"   1

"course,"   1

"creatures"   2

"crimes"   1

"cup"   1

"currently"   1

"dangerous"   2

"dare" 1

"day"   1

"day,\u0094"   1

"dealing"   1

"dear" 1

"deep" 1

"delighted"   1

"dementors"   1

"department"   1

"desperate"   1

"despite"   1

"details"   1

"did"   2

"didn\u0092t"   1

"disappearance" 1

"discussion,"   1

"disheveled"   1

"dismay,"   1

"do"   1

"don\u0092t"   4

"down"   4

"down,"   2

"dragons"   2

"dragons?\u0094"   1

"drew"   1

"dripping"   1

"dumbledore"   2

"during"   1

"e"   6

"each"   4

"earlier."   1

"effected"   1

"election"   1

"else"   1

"emerald"   1

"encounter"   1

"encounter,"   1

"end,"   1

"enough"   1

"er"   1

"erupted"   1

"escaped"   1

"even"   1

"even,"   1

"ever"   1

"exactly"   1

"excellent."   1

"exchequer"   1

"explain"   1

"extremely"   1

"eye" 1

"eyes" 1

"fact" 1

"family"   1

"fastened"   1

"fatherly"   1

"fear" 1

"feared"   1

"fifteen"   1

"fill" 1

"find" 1

"fire" 2

"fireplace,"   2

"firmly"   1

"first" 1

"flames,"   1

"flames."   1

"flight"   1

"flustered"   1

"foolish"   1

"foot" 1

"for" 10

"foreign"   1

"forgot,\u0094" 1

"former"   1

"found" 2

"frame" 1

"fretful"   1

"from" 3

"fudge" 21

"fudge,"   4

"fudge."   3

"fudge\u0092s" 2

"full" 1

"g"   6

"gazed" 1

"gently."   1

"gerbil"   1

"gerbil."   1

"given" 1

"glasses"   1

"gloomy"   1

"going" 3

"good" 2

"got"   2

"graver"   1

"great,"   1

"green" 1

"groped"   1

"grueling"   1

"habit" 1

"had"   47

"half" 6

"hallucination" 1

"hand," 1

"hand." 2

"happened"	1

"happened."	1

"harassed-looking"	1

"harry" 7

"has"	1

"hasn\u0092t"	1

"hat"	1

"have"	8

"he"	23

"he-who-must-not-be-named"	2

"he\u0092s"	6

"head," 1

"heard" 1

"help"	1

"herbert"	1

"herself"	1

"highly"	1

"him"	4

"him-" 1

"him."	2

"him?" 1

"himself"	4

"his"	27

"historian,"	1

"hoarsely."	1

"hoax" 1

"hoax," 1

"hope" 3

"hope." 1

"hoped" 1

"hopelessly"   1

"horrible"   1

"hospital"   1

"hour." 1

"however,"   2

"hurricane."   1

"i"   13

"i\u0092d"   1

"i\u0092ll"   1

"i\u0092m"   3

"i\u0092ve"   1

"if"   4

"imminent"   1

"importing"   1

"impossible"   1

"in"   17

"in."   1

"incident,"   1

"indeed"   1

"inform"   1

"injuries."   1

"inside"   1

"instead"   1

"instructed"   1

"interrupted."   1

"into"   7

"is!\u0094"   1

"is"   5

"is,\u0094"   1

"isolated"   1

"it"   9

"it,"   2

"it\u0092s"   3

"j.k."   6

"jacket."   1

"just"   3

"killed?"   1

"killer"   1

"killing,"   1

"know!\u0094"   1

"know"   5

"know,"   1

"known"   1

"kwidditch"   1

"lack"   1

"large"   2

"last"   1

"last,"   1

"last."   1

"later"   1

"later,"   1

"laughed."   1

"leave,"   1

"leaving"   1

"left"   1

"less"   2

"let"   2

"liaison"   1

"like"   3

"like)"   1

"liked"   1

"likely"   1

"liquid"   1

"little"   3

"live"   1

"live."   1

"lived,"   1

"living"   1

"long"   1

"look"   1

"look.\u0094"   1

"looking"   1

"lot"   2

"made"   2

"magic"   2

"magical"   2

"maintain"   1

"making"   1

"maladies"   1

"man"   3

"man."   1

"mark"   1

"mass"   2

"may"   1

"me"   5

"me,"   1

"mean" 1

"meant" 1

"meeting,"   1

"memory"   2

"mention"   1

"might" 1

"minister!"   1

"minister"   25

"minister),"   1

"minister,"   3

"minister."   4

"minister\u0092s"   4

"modifications" 1

"moment!\u0094" 1

"moment"   1

"moment,"   1

"more" 2

"more," 1

"motionless"   1

"motionless,"   1

"move" 1

"much," 1

"muddy-brown"   1

"muggle"   3

"muggles"   2

"muggles."   1

"mungo\u0092s" 1

"murders"   1

"must" 1

"mysterious"   1

"name" 2

"named" 1

"nasty" 1

"need" 2

"never" 4

"never,"   1

"nevertheless." 1

"news" 2

"next" 2

"niece" 1

"night" 1

"night.\u0094" 1

"no"   2

"no."   1

"nobody"   1

"non-magical"   1

"none" 1

"nor"   1

"north" 1

"nose;" 1

"not"   10

"not." 1

"nothing"   1

"nothing;"   1

"notice"   1

"notify"   1

"now"   1

"now." 1

"occasionally" 1

"occupant" 1

"odds-on" 1

"of" 44

"of," 1

"off." 1

"offered" 1

"office" 2

"office," 1

"office." 1

"on" 8

"once" 3

"one" 4

"only" 2

"opposition" 1

"opposition.\u0094" 1

"or" 4

"other" 3

"other," 1

"others," 1

"otherwise," 1

"ought" 2

"our" 2

"out" 11

"out." 1

"over" 1

"own" 2

"p" 6

"painting"   1

"panic."   1

"panted,"   1

"parchment,"   1

"persistent"   1

"picture"   1

"piece" 1

"pin-striped" 1

"planned"   1

"planning"   1

"playing"   1

"pocket."   1

"point,"   1

"poking"   1

"population," 1

"portrait"   3

"potter"   6

"potter,"   1

"powder"   1

"predecessor." 1

"press" 1

"previously," 1

"prime" 34

"prince"   6

"prise" 1

"prison"   1

"private"   1

"properly"   1

"proved"   1

"pulled"   1

"purposes"   1

"pushed"   1

"put"   1

"quite" 3

"ranting"   1

"rather"   2

"realized"   1

"really"   3

"refused"   1

"regulation"   1

"rejoin"   1

"remained"   1

"reminders"   1

"remotest"   1

"remove."   1

"repeated"   1

"resented"   1

"resolved"   1

"rest"   1

"reveals"   1

"rid"   1

"rim"   1

"room"   1

"rounded"   1

"routine,"   1

"rowling"   6

"rule"   1

"run"   1

"safer" 1

"said" 6

"said," 3

"same" 1

"sat" 1

"saw" 1

"say" 3

"say," 2

"say." 1

"says" 1

"scratching" 1

"sea," 1

"secrecy.\u0094" 1

"secretary" 1

"see" 2

"seeing" 1

"seen" 2

"sense" 1

"serious" 1

"several" 2

"shock" 1

"should" 3

"shout," 1

"shouted" 1

"shower" 1

"shuddered" 1

"sight," 1

"silent" 1

"simply" 2

"sit"   3

"sleep" 1

"snapped"   1

"snarled"   1

"so"   2

"some" 1

"something"   3

"sopping"   1

"sorry" 1

"sorry."   1

"sort" 1

"soul," 1

"sound."   1

"sounded"   2

"sparks."   1

"speech,"   1

"sphinx"   1

"sphinx."   1

"sphinxes"   1

"spluttered"   1

"spoke."   1

"spot" 1

"squinted"   1

"st."   1

"started"   1

"state" 1

"stepped"   1

"stepping"   1

"sternly"   1

"still" 2

"still."   1

"stood" 3

"stretch"   1

"subject"   1

"support,"   1

"suppose,"   1

"sure" 1

"surprised"   1

"sworn" 1

"take" 1

"taken" 1

"taking"   1

"talked"   1

"talking"   1

"teacup"   2

"tell" 3

"tells" 1

"term" 1

"terrible"   1

"than" 4

"that" 25

"that," 1

"that\u0092s"   1

"the"   101

"their" 1

"them" 2

"then" 1

"then," 1

"then,\u0094" 1

"then?" 1

"then?\u0094" 2

"there" 2

"there,"   2

"there\u0092s" 1

"therefore,"   1

"they" 3

"thin" 2

"thing" 2

"think" 3

"this" 5

"this," 3

"those" 1

"though"   1

"thought"   2

"thousand"   1

"three" 3

"three,\u0094" 1

"throw" 1

"thrown"   1

"thrust"   1

"time" 3

"time," 1

"tipping"   1

"to"   42

"told" 3

"tonight,"   1

"tonight.\u0094"   1

"too." 1

"took" 1

"tournament," 1

"trained" 1

"transferred" 1

"tricks" 1

"tried" 3

"triwizard" 1

"turned" 1

"twice," 1

"two" 2

"two," 1

"ugly" 1

"uncomfortable" 1

"under" 1

"understand" 1

"unless" 1

"unsuccessfully" 1

"up" 5

"uproar\u0094" 1

"vain" 1

"vanished" 2

"very" 3

"visit." 1

"voice" 1

"vol" 1

"wait" 1

"walking" 2

"wall," 1

"wand"	1

"wand,"	1

"warned"	1

"warning,"	1

"was"	12

"wasn\u0092t"	1

"watching"	1

"water"	1

"way"	1

"way."	1

"we"	4

"we\u0092re"	1

"we\u0092ve"	1

"wear"	2

"week."	1

"well,"	2

"well-informed"	1

"were"	3

"wet"	1

"what"	3

"what?\u0094"	1

"what\u0092s"	1

"whatever"	1

"when"	6

"which"	2

"while"	1

"whiskey"	1

"whiskey,"	1

"whiskey-free"	1

"who" 6

"whooshing"   1

"why" 4

"wide" 1

"window,"   1

"wishing"   1

"with" 6

"without"   2

"wizard"   2

"wizarding"   1

"won\u0092t"   1

"work" 1

"world" 2

"worry!\u0094" 1

"worry,"   2

"worry,\u0094" 1

"worrying"   1

"worst" 2

"would" 5

"wrote" 1

"yawning,"   1

"year" 1

"years" 4

"yes," 1

"yet" 1

"you" 13

"you," 1

"you-know-who" 1

"you-know-who." 1

"you-know-who\u0092s" 1

"you.\u0094"   1

"you\u0092ll" 2

"you\u0092re" 2

"your" 1

"|"   6

Code: python File called: not-english-words.py

```python
from spellchecker import SpellChecker
from mrjob.job import MRJob
from mrjob.step import MRStep

class MRNonEnglishWordCount(MRJob):

    def mapper(self, _, line):
        spell = SpellChecker()
        words = line.lower().split()
        for word in words:
            if word not in spell:  # If the word is not recognized
                yield (word, 1)

    def reducer(self, word, counts):
        yield (word, sum(counts))

    def steps(self):
        return [
            MRStep(mapper=self.mapper,
                   reducer=self.reducer)
        ]

if __name__ == '__main__':
    MRNonEnglishWordCount.run()
```

$ python not_english-words.py file2.txt

No configs found; falling back on auto-configuration

No configs specified for inline runner

Creating temp directory C:\Users\naale\AppData\Local\Temp\not_english-words.naale.20241003.210941.595869

Running step 1 of 1...

job output is in C:\Users\naale\AppData\Local\Temp\not_english-words.naale.20241003.210941.595869\output

Streaming final output from C:\Users\naale\AppData\Local\Temp\not_english-words.naale.20241003.210941.595869\output...

"90"   1

"91"   1

"92"   1

"93"   1

"94"   1

"95"   1

"?\u0094"   2

"\u0092night"   1

"\u0093"   1

"\u0093all"   1

"\u0093arthur," 2

"\u0093both"   1

"\u0093bread," 1

"\u0093but"   1

"\u0093correct,\u0094" 1

"\u0093dear,"   1

"\u0093ever"   1

"\u0093everyone\u0092s" 1

"\u0093he"   2

"\u0093he\u0092s"   1

"\u0093hello," 1

"\u0093hi," 1

"\u0093i" 5

"\u0093i\u0092d" 1

"\u0093is" 1

"\u0093it\u0092s" 1

"\u0093molly!" 1

"\u0093molly!\u0094" 1

"\u0093mollywobbles,\u0094" 1

"\u0093mortal" 1

"\u0093no," 2

"\u0093now" 1

"\u0093of" 1

"\u0093oh" 1

"\u0093oh," 1

"\u0093please" 1

"\u0093sit" 1

"\u0093slughorn" 1

"\u0093so" 2

"\u0093take" 1

"\u0093thanks" 1

"\u0093thanks," 1

"\u0093that\u0092s" 1

"\u0093to" 1

"\u0093traveling.\u0094" 1

"\u0093we" 1

"\u0093well," 2

"\u0093what" 2

"\u0093wotcher," 1

"\u0093yeah," 1

"\u0093yes," 2

"\u0093yes,\u0094" 1

"\u0093you" 1

"\u0093you\u0092re" 1

"\u0094" 3

"\u0096" 6

"\u0097" 6

"\u0097\u0094" 2

"account,\u0094" 1

"added," 1

"again;" 1

"ages," 1

"ah," 1

"air," 1

"air." 1

"alone," 1

"am,\u0094" 1

"ambition?\u0094" 1

"appearance." 1

"arthur" 3

"arthur\u0092s" 3

"asked." 1

"balding," 1

"be," 1

"bed," 1

"blistering." 1

"bowl." 1

"bread," 1

"bubble-gum-pink"   1

"bubotuber"   1

"can\u0092t"   1

"check."   1

"cloak."   2

"clock\u0092s"   1

"coming!\u0094"   1

"course,"   1

"course."   1

"courteously,"   1

"crookshanks"   1

"day\u0092s"   1

"dear,"   2

"dear."   1

"dear?\u0094"   1

"didn\u0092t"   2

"doing,"   1

"don\u0092t"   5

"door."   2

"doorknob,"   1

"doorstep,"   1

"down,"   2

"down."   1

"drawn,"   1

"dumbledore"   2

"dumbledore,"   2

"dumbledore."   1

"dumbledore\u0092s"   1

"ears."   1

"eater,"   1

"eater."   1

"eaters."   1

"enough,"   1

"everybody\u0092s"   1

"everyone.\u0094"   1

"everywhere,"   1

"expected."   1

"eyes." 1

"face." 1

"fact," 1

"favorites,"   1

"first!\u0094" 1

"fletcher,"   1

"gasped."   1

"going,\u0094" 1

"great!\u0094" 1

"hair." 1

"hands,"   1

"hands."   1

"harry,"   2

"harry,\u0094" 1

"harry.\u0094" 1

"harry?\u0094" 1

"harry\u0092s" 1

"he\u0092d"   1

"he\u0092s"   2

"head." 1

"heart-shaped" 1

"hello," 1

"her." 1

"here?\u0094" 1

"hermione\u0092s" 1

"highflier." 1

"him." 1

"him?\u0094" 1

"hogwarts" 1

"hogwarts," 1

"home,\u0094" 1

"horace" 1

"horn-rimmed" 1

"hour." 1

"hours." 1

"hungry," 1

"husband," 1

"i\u0092ll" 1

"i\u0092ve" 1

"ill," 1

"in.\u0094" 1

"is," 1

"is." 1

"it;" 1

"it\u0092s" 5

"j.k." 6

"job," 2

"job?\u0094" 1

"know," 1

"late." 1

"look," 1

"lucky,\u0094" 1

"mad-eye" 1

"me,\u0094" 1

"mean," 1

"mean,\u0094" 1

"member," 1

"midnight." 1

"ministry\u0092s" 1

"mistakes." 1

"molly," 1

"molly.\u0094" 1

"mr." 5

"mrs." 21

"much." 1

"muggle" 1

"mundungus" 1

"neck," 1

"news." 1

"night," 1

"no," 1

"nodded," 1

"now!\u0094" 1

"now,\u0094" 1

"now." 1

"nymphadora!\u0094" 1

"objects." 1

"off,\u0094" 1

"off." 1

"oh!\u0094"   1

"once." 1

"once:" 1

"open." 1

"over;" 1

"pale," 1

"peril.\u0094" 1

"plugs."   1

"procedure,"   1

"professor,\u0094"   1

"promoted!\u0094"   1

"purring."   1

"question!\u0094"   1

"quickly,"   1

"really,"   2

"red-haired"   1

"red;" 1

"remus" 1

"right,"   1

"robes."   1

"ron,\u0094"   1

"ron\u0092s"   2

"rowling"   6

"rubbish.\u0094"   1

"rufus" 2

"said." 1

"scrimgeour"   1

"scrimgeour.\u0094"   1

"see," 2

"servant.\u0094"   1

"shoulder;"   1

"shoulders."   1

"shut." 1

"side," 1

"sighed,"   1

"silly."   1

"situation,"   1

"slughorn"   2

"slughorn\u0092s"   1

"smile."   1

"sneakoscopes" 1

"so-called"   1

"softly,"   1

"soup," 1

"soup." 1

"speak."   1

"spot." 1

"stay," 1

"stove,"   1

"sweet,\u0094" 1

"sympathy,"   1

"table."   1

"table;"   1

"there,"   1

"thick,"   1

"thin," 1

"think."   1

"this," 1

"this." 1

"threshold." 1

"together?\u0094" 1

"tonks" 1

"tonks," 2

"tonks.\u0094" 1

"troubled." 1

"up." 1

"up.\u0094" 2

"ups," 1

"voice," 1

"voice." 1

"wall," 1

"wand." 1

"was." 1

"we\u0092re" 1

"weasley" 16

"weasley," 5

"weasley." 2

"weasley.\u0094" 1

"weasley\u0092s" 2

"weasleys\u0092" 1

"weekend," 1

"well," 2

"who\u0092s" 1

"who\u0092ve" 1

"wisely." 1

"work?\u0094" 1

"yard;" 1

"yes," 1

"yesterday,\u0094"   1

"you!\u0094"   1

"you," 1

"you-know-who" 2

"you-know-who," 1

"you." 1

"you?\u0094"   1

"you\u0092ve"   1

"yourself."   1

"|"   6