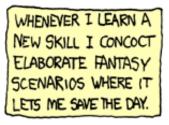
CSE Cracks	Regular Expressions	20XX
Name:		
Student ID:		
	note, open book, and open world. Assume all regular expressions are done in Fibrary. Good luck!	Python using
	, I acknowledge that I have neither given nor received inappropriate help on this he letter and spirit of the University of California, Santa Cruz Code of Acader exam.	
Signature:		
needed space outs	elow if you believe your exam may require manual grading, e.g., you crossed ou side a designated answer box.	t answers or
L IVI GAO	an may require manuar graums.	

Question 1 [Ice Breaker] (5 Points)

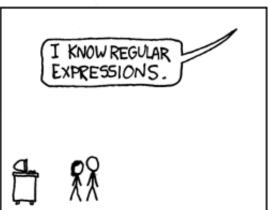
Taking inspiration from the XKCD comic below, how would you save the day using regular expressions?

















Place your answer within the boxed region below.

•		
•		
•		
•		
•		
•		
•		
•		
•		
I		

Question 2 [Regular Expression in Programming Languages] (5 Points)

Regular expressions are implemented as either a core feature or in the standard library of almost every major programming language.

Fill in the circle that corresponds to your answer.

\bigcirc	True
\bigcirc	False

Question 3 [Regular Expression Vocabulary] (20 Points)

Match the following terms to their corresponding definitions.

Fill in the each box on the left with a letter from the right.

	Α.	of a line.
Word Boundary	В.	A repetition operator that matches the range $[0, infinity]$.
Group	С.	The set of all alphanumeric characters and underscore.
Group	D.	All digits.
Disjunction	E.	A collection of character that can be treated as a single unit.
Kleene Star	F.	An operator that allows us to select one of two options.
	G.	An operator that allows us to select both of two options.
Back Reference	Н.	A special character that allows us to invoke a previous group.
Anchor	I.	A set of character where any single member of the group can be matched.
Character Class	J.	The empty string between ([\\\^] and \\w) or between (\\\\ and [\\\\]).
	К.	A repetition operator that matches the range $[1, infinity]$.

A special character that can be used to match the beginning or end

Question 4 [Basic Regular Expressions] (5 Points)

Which of the following regular expressions would be best to match a 10-digit phone number formatted as: '123 456-7890'. (Assume any stretch of continuous whitespace is a single space character.)

Fill in the circle that corresponds to your answer.

\circ	r'\d+ \d+-\d+'
\bigcirc	r'\d{10}'
\bigcirc	r'\d{3} \d{3}-\d{4}'
\bigcirc	r'\d* \d*-\d*'

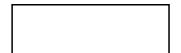
Below is the opening paragraph (which is actually just one sentence) from A Tale Of Two Cities written by Charles Dickens. Future questions may reference this passage as "the provided passage".

"It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness, it was the epoch of belief, it was the epoch of incredulity, it was the season of Light, it was the season of Darkness, it was the spring of hope, it was the winter of despair, we had everything before us, we had nothing before us, we were all going direct to Heaven, we were all going direct the other way — in short, the period was so far like the present period, that some of its noisiest authorities insisted on its being received, for good or for evil, in the superlative degree of comparison only."

Question 5 [Passage Search] (10 Points)

In the provided passage, how many non-specific time periods are mentioned, i.e., how many matches are there for the following regular expression:

Place your answer within the boxed region below.



Question 6 [Quantifiers] (5 Points)

For each scenario, select the quantifier that is most appropriate. You want to match the leading zeros for some number. E.g., "00" for "005".

<PART1>

You want to match the negative sign for some number. E.g., "-" for "-9".

<PART2>

You want to match the main digits (before any decimal point) for a required number, e.g., "123" for "123".

<PART3>

For each part (denoted by angle brackets), fill in the circle that corresponds to your answer.

PART1:											
	0	?		\circ	+		\bigcirc	*			
PART2:				O			J				
	\circ	*		\circ	?		\circ	+			
PART3:											
	\circ	*		\circ	+		\circ	?			
Question 7 Which of the	e followi	ng doe	es the regex	r'Lo{2,3}	_	Cat' match?	Select all the	hat aj	pply.		
	Long	Cat									
	Lood	ong C	at								
	Loon	ıg Cat									
	Lood	ong Ca	t								
Question 8	Backre	eferenc	e Matching	(10 Points)						
Suppose tha separated va	t we are lue) file.	trying The o	to write a so	cript extrac	ct na our	ame informati r CSV file are r people that	: first name	, last	name, and	l title. As	part of
import re											
_	r'^\s*((Dr).?	_line): ')?\s*([^,]+ .ACEMENT_STR		+)\:	s*\$'					
return	re.sub(r	egex,	replacement	, text_lin	ıe)						
Fill in the b						ke the above of	code work c	orrect	tly.		
For each par	t (denot	ed by	angle bracke	ets), place	your	r answer in th	ne associated	d box			
		Γ]	ſ]	
	A:			В:			C:				

Question 9 [Regex Golf] (15 Points)

Create a regular expression that matches successfully completes a game a golf with the table below. Specifics:

- Match all values in the Match column.
- Do not match any values in the No Match column.
- Write you regex as a raw string using a single or double quotes (not triple quotes).
- Treat the contents of each table cell as a string (so you do not have the match the quotes).
- You may assume that any contiguous whitespace is a single space character.
- You only need to match (or not match) the values in the table, you do not need to extend this pattern to unseen values.

Match	No Match
'12:00 AM'	'00:00'
'05:30 PM'	'17:30'
'01:45 AM'	'01:65 AM'
'10:10 PM'	'10:10 ZZ'
'12:34 PM'	'12:34 pm'
'11:59 PM'	'23:59'
	'123:45 AM'
	'12:345 PM'

Place your answer within the boxed region below.

ı			
ı			
ı			
ı			
ı			

Question 10 [Write a Function] (20 Points)

Implement a function with the following signature and description:

```
import re

def compute(text):

   Compute the result of the binary expression represented in the |text| variable.
   The possible operators are: + , - , * , and / .
   Operands may be any real number.
   If the operation is division, the RHS (denominator) will not be zero.

return NotImplemented
```

Specifics:

- Your function must use regular expressions.
- You may not use eval() or any other Python ast functionality.
- You may only import modules from the Python standard library.
- You should return a float that is the result of the binary operation represented by text.
- The operator will be one of: $\{+, -, *, /\}$.
- Operands may be any real number.

Place your answer within the boxed region on the next page.

1		
1		
1		
1		
1		
1		
1		