Assessment Task 2

This is an assessment task. The Assessment Exam is designed to comprehensively assess your knowledge and understanding of our project's requirements.

You will be assessed on your numerical ratings, explanations, and the ideal response you write (if there are issues in the response provided). Always be specific about any issues you find in the given response!

Please take this seriously and attempt it as you might do on a real task - if you fail, you will not be able to access the real tasks.

Remember, the use of LLMs, chatbots, AI tools, plagiarism, or copy/pasting responses is strictly prohibited and is a violation of the Outlier Terms of Service. This will lead to your removal from the project and the deactivation of your Outlier account.

Please read the prompt carefully:

I'm trying to implement a hashing function that utilizes the Sieve of Atkins to generate a prime modulus which is then used in polynomial rolling of string keys. Please send a script example of how to implement this hash function in python

Please read the response to the above prompt carefully:

Here is an example of a hashing function that utilizes the Sieve of Atkins to generate a list of primes, then uses those primes in polynomial rolling of string

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```
return []
if limit == 2:
  return [False, True]
if limit == 3:
  return [False, True, True]
res = [False]
if limit >= 2:
  res[2] = True
if limit >= 3:
  res[3] = True
for i in range(4, limit + 1):
  res[i] = False
i = 1
while i <= limit:
  j = 1
  while j <= limit:
     n = (4 * i * i) + (j * j)
     if (n \leq limit and (n % 12 == 1 or
                 n % 12 == 5)):
       res[n] ^= True
     n = (3 * i * i) + (j * j)
     if n <= limit and n % 12 == 7:
       res[n] ^= True
     n = (3 * i * i) - (j * j)
     if (i > j \text{ and } n \le limit \text{ and } l
          n % 12 == 11):
```

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```
while r * r <= limit:
    if res[r]:
      for i in range(r * r, limit + 1, r * r):
        res[i] = False
    r += 1
  return res
def pick_prime(primes, min_size=1000):
  """returns a suitable prime to use as modulus"""
  for prime in primes:
    if prime >= min_size:
      return prime
  # if no prime large enough exists, use last one on list
  return primes[-1]
def hash(string, modulus):
  """implements polynomial rolling of string keys"""
  hash\_value = 5381
  for char in string:
    # hash = 33 XOR ord(c)
    hash_value = ((hash_value << 5) + hash_value) ^ ord(char)
  return hash_value % modulus
if __name__ == '__main__':
  # generate primes list to use as modulus
  primes = sieve(10000) # modify limit based on your needs
  modulus = pick_prime(primes, 1000)
  test_array = ["alpha","beta","gamma","delta","epsilon"]
```

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Your job is to determine if this is a high-quality, correct response to the prompt!

We consider the following:

- Truthfulness: Are all factual claims in the response correct? Does the code work, and is it well-written?
 - Examples of claims: "Python is an object-oriented language.", "O(n) is the runtime of this code"
- Instruction following: Are all the prompt's instructions followed? Does the provided response meet all specifications?

These determine the overall quality of the response.

How would you change the given response to make it helpful? Be detailed and call out all issues in the response, including the code! If there are no issues, write N/A.

Type answer here			
			Char count:
	Submit Answer		
the given response cor		ıl? Consider the pro	mpt's instructions,
ne response's code qual Yes - the response is		No - there are s	
		140 there are s	0000
helpful and correct.		issues.	Some

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[1] Major Issue(s): The response does not address all explicit or reasonably implied asks of the prompt. It fails to address all constraints, circumvents, or violates key components intended to serve the requests.

[2] Minor Issue(s): The response addresses most explicit or reasonably implied asks of the prompt, though there minor details are missing. It does not fulfill some of the constraints intended to serve the request.

[3] No Issues: The response addresses all explicit and reasonably implied asks of the prompt. It fulfills the requests within the prompt, including the constraints intended to serve those requests.

Rate Instruction Following

The response has IF issues

The response has does not have IF issues

Submit Answer

Truthfulness Dimension

[1] Major Issue(s): There are major errors in claims in the response. Code is not executable or does not provide correct outputs.

[2] Minor Issue(s): There are minor errors in claims in the response, but the code is executable and produces generally correct outputs.

[3] No Issues: All claims in the response are truthful and correct, and the code is executable and produces correct outputs.

Rate Truthfulness

The response has truthfulness issues

The response does not have truthfulness issues

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Did you think the response had code/truthfulness, instruction following, or other errors that need fixing? If so, please write and provide an improved response in the field below. Remember, you must complete this step if you flagged issues above.

Please ensure that you only move forward when the:

- The response addresses all explicit and reasonable implied asks of the prompt.
- The response completed the requests within the prompt, including the constraints placed in service of those requests.
- All code and intermediate steps are completely correct and accurate without any errors.

Write an ideal response to the prompt question here! Ensure you correct all issues that you found. If you found no issues, write N/A.

		3 min char	
Type answer here			
		1.	
		Char count: 0	
	Submit Answer		

If you provided a rewrite, summarize the changes/fixed you made. If you did not provide a rewrite, write "N/A".

3 min char

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