**Atkļūdošana – ChatGPT4**

Uzdevuma numurs tiek ņemts no Uzdevuma\_instrukcijas.md faila. Šādi var saprast kura uzdevuma kods tiks labots.

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| **Uzdevuma nr.** | **Kļūdainais kods** | **Atkļūdotais kods** | **Koda pārbaude** | |
| 17. | import re  def get\_domain\_name(url):  """  Extracts the domain name from a given URL.  Args:  url (str): The URL from which to extract the domain name.  Returns:  str: The extracted domain name.  """  # Regex pattern to find the domain  pattern = r'(?:http[s]?://)?(?:www\.)?([^/:\?]+)'    # Search the URL with the regex pattern  match = re.search(pattern, url)  if match:  domain = match.group(1)  # Split by '.' and remove potential www or other subdomains to get the main domain  domain\_parts = domain.split('.')  if len(domain\_parts) > 2:  # Usually the main domain parts are the last two parts, except known SLDs  return '.'.join(domain\_parts[-2:])  return domain  return "" | from urllib.parse import urlparse  def get\_domain\_name(url):  parsed\_url = urlparse(url)  domain = parsed\_url.netloc  # Strip out 'www.'  domain = domain.replace('www.', '')  # Handle known SLDs or return last two parts  return domain.split('.')[-2] + '.' + domain.split('.')[-1]  # Example usage  print(get\_domain\_name("http://www.example.co.uk")) |  | |
| 18. | def roman\_to\_int(s):  """  Converts a Roman numeral string to an integer.  """  roman\_map = {'I': 1, 'V': 5, 'X': 10, 'L': 50, 'C': 100, 'D': 500, 'M': 1000}  integer\_value = 0  prev\_value = 0    for char in reversed(s):  int\_val = roman\_map[char]  if int\_val >= prev\_value:  integer\_value += int\_val  else:  integer\_value -= int\_val  prev\_value = int\_val    return integer\_value  def int\_to\_roman(num):  """  Converts an integer to a Roman numeral string.  """  roman\_pairs = [  (1000, "M"), (900, "CM"), (500, "D"), (400, "CD"),  (100, "C"), (90, "XC"), (50, "L"), (40, "XL"),  (10, "X"), (9, "IX"), (5, "V"), (4, "IV"), (1, "I")  ]  roman\_result = []    for value, numeral in roman\_pairs:  while num >= value:  roman\_result.append(numeral)  num -= value    return ''.join(roman\_result) | Kodam nebija vajadzīga atkļūdošana, jo kods faktiski darbojās pareizi, to vajadzēja pielāgot dotajiem testiem – samainīt funkciju nosaukumus un ievietot klasē. | | |
| 19. | def parse\_int(string):  num\_dict = {  'zero': 0, 'one': 1, 'two': 2, 'three': 3, 'four': 4,  'five': 5, 'six': 6, 'seven': 7, 'eight': 8, 'nine': 9,  'ten': 10, 'eleven': 11, 'twelve': 12, 'thirteen': 13,  'fourteen': 14, 'fifteen': 15, 'sixteen': 16,  'seventeen': 17, 'eighteen': 18, 'nineteen': 19,  'twenty': 20, 'thirty': 30, 'forty': 40, 'fifty': 50,  'sixty': 60, 'seventy': 70, 'eighty': 80, 'ninety': 90  }  multipliers = {  'hundred': 100,  'thousand': 1000,  'million': 1000000  }  words = string.replace('-', ' ').replace('and', '').split()  total = 0  current = 0  for word in words:  if word in num\_dict:  current += num\_dict[word]  elif word in multipliers:  current \*= multipliers[word]  if word in ['thousand', 'million']:  total += current  current = 0  return total + current | def parse\_int(string):  num\_dict = {  'zero': 0, 'one': 1, 'two': 2, 'three': 3, 'four': 4,  'five': 5, 'six': 6, 'seven': 7, 'eight': 8, 'nine': 9,  'ten': 10, 'eleven': 11, 'twelve': 12, 'thirteen': 13,  'fourteen': 14, 'fifteen': 15, 'sixteen': 16,  'seventeen': 17, 'eighteen': 18, 'nineteen': 19,  'twenty': 20, 'thirty': 30, 'forty': 40, 'fifty': 50,  'sixty': 60, 'seventy': 70, 'eighty': 80, 'ninety': 90  }  multipliers = {  'hundred': 100,  'thousand': 1000,  'million': 1000000  }  words = string.replace('-', ' ').replace('and', '').split()  total = 0  current = 0  for word in words:  if word in num\_dict:  current += num\_dict[word]  elif word in multipliers:  current \*= multipliers[word]  if word in ['thousand', 'million'] and total != 0:  total += current  current = 0  elif word == 'thousand' or word == 'million':  total = current  current = 0  return total + current |  | |
| 7. | def who\_liked\_it(names):  """  This function formats the text displayed based on the number of people who liked an item.  Args:  names: A list of names of people who liked the item.  Returns:  The formatted text to be displayed.  """  length = len(names)  if length == 0:  return "no one likes this"  elif length == 1:  return f"{names[0]} likes this"  elif length == 2:  return f"{names[0]} and {names[1]} like this"  else:  return f"{names[0]}, {names[1]} and {length - 2} others like this" | def who\_liked\_it(names):  """  This function formats the text displayed based on the number of people who liked an item.  Args:  names: A list of names of people who liked the item.  Returns:  The formatted text to be displayed.  """  length = len(names)  if length == 0:  return "no one likes this"  elif length == 1:  return f"{names[0]} likes this"  elif length == 2:  return f"{names[0]} and {names[1]} like this"  elif length == 3:  return f"{names[0]}, {names[1]} and {names[2]} like this"  else:  return f"{names[0]}, {names[1]} and {length - 2} others like this" |  | |
| 9. | def sort\_by\_order(sentence):  """  This function sorts a string containing words with position numbers embedded.  Args:  sentence: The string to be sorted.  Returns:  The sorted string where each word appears in its designated position.  """  if not sentence:  return ""  # Split the sentence into words and extract positions and actual words  words = []  for word in sentence.split():  position, actual\_word = int(word[0]), word[1:]  words.append((position, actual\_word))  # Sort the list of tuples based on the position number  sorted\_words = sorted(words)  # Join the sorted words back into a string  return " ".join([word for \_, word in sorted\_words]) | import re  def sort\_by\_order(sentence):  """  This function sorts a string containing words with position numbers embedded.  Args:  sentence: The string to be sorted.  Returns:  The sorted string where each word appears in its designated position.  """  if not sentence:  return ""  words = []  # Use regular expression to find the number in the word  for word in sentence.split():  position = int(re.search(r'\d', word).group()) # Find the digit in the word  words.append((position, word))  # Sort the list of tuples based on the position number  words.sort()  # Join the sorted words back into a string without the numbers, if required  return " ".join(word for \_, word in words)  # Example usage:  sorted\_sentence = sort\_by\_order("4th fourth 1st first 2nd second 3rd third")  print(sorted\_sentence) # Expected: "first second third fourth" |  | |
| 14. | def find\_missing\_letter(chars):  """  This function finds the missing letter in an array of consecutive (increasing) letters.  Args:  chars: A list of consecutive (increasing) letters.  Returns:  The missing letter as a string.  """  # Get the expected difference between consecutive letters (always 1)  expected\_diff = ord(chars[1]) - ord(chars[0])  # Iterate through the array from the second element  for i in range(1, len(chars)):  # Check if the current difference is not equal to the expected difference  if ord(chars[i]) - ord(chars[i-1]) != expected\_diff:  # Calculate the missing character's ASCII code based on the expected difference  missing\_char\_code = ord(chars[i-1]) + expected\_diff  # Convert the ASCII code back to a character  return chr(missing\_char\_code) | Tā kā pie kļūdu atrašanas netika saņemta atsauksme par kļūdu esamību, tad netika arī saņemts jauns koda variants. | | |
| 16. | def last\_digit(a, b):  """  This function calculates the last decimal digit of a very large power a^b.  Args:  a: A non-negative integer base.  b: A non-negative integer exponent.  Returns:  The last decimal digit of a^b.  """  # Handle special cases (0^0 and anything to the power of 0)  if a == 0 and b == 0:  return 1  elif a == 0:  return 0  # Last digit of a can repeat in a cycle of {1, 0, 5, 6}  last\_digit\_cycle = [1, 0, 5, 6]  a\_last\_digit = a % 10 # Get the last digit of a  # Reduce b's exponent by finding the remainder when divided by the cycle length (4)  b\_exp = b % 4  # Return the last digit based on the reduced exponent and the cycle  return last\_digit\_cycle[b\_exp] | def last\_digit(a, b):  """  This function calculates the last decimal digit of a^b for non-negative integers a and b.  Args:  a: A non-negative integer base.  b: A non-negative integer exponent.  Returns:  The last decimal digit of a^b.  """  # Handle special cases (0^0 and anything to the power of 0)  if a == 0 and b == 0:  return 1 # by mathematical convention  elif b == 0:  return 1 # any number to the power of 0 is 1  # Define cycles for the last digits from 0 to 9  cycles = {  0: [0],  1: [1],  2: [2, 4, 8, 6],  3: [3, 9, 7, 1],  4: [4, 6],  5: [5],  6: [6],  7: [7, 9, 3, 1],  8: [8, 4, 2, 6],  9: [9, 1]  }  # Get the last digit of a  last\_digit\_a = a % 10  # Select the cycle based on the last digit of a  cycle = cycles[last\_digit\_a]  # Reduce b to fit within the cycle length  b\_mod = (b - 1) % len(cycle) # b - 1 because cycles are zero-indexed  # Return the appropriate last digit from the cycle  return cycle[b\_mod]  # Example tests:  print(last\_digit(97, 97)) # Output should correctly reflect the last digit of 97^97  print(last\_digit(2200, 2300)) # As asked in the problem description | |  |
| 17. | import urllib.parse  def get\_domain\_name(url):  """  This function extracts the domain name from a URL string.  Args:  url: The URL string.  Returns:  The domain name as a string, or an empty string if parsing fails.  """  try:  # Parse the URL using urllib.parse  parsed\_url = urllib.parse.urlparse(url)  # Extract the netloc (domain name)  domain\_name = parsed\_url.netloc.lower() # Convert to lowercase  # Split and remove subdomain (if any)  parts = domain\_name.split(".")  return parts[-2] if len(parts) > 1 else domain\_name  except ValueError:  # Handle potential parsing errors (invalid URL format)  return "" | import tldextract  def get\_domain\_name(url):  """  This function extracts the domain name from a URL string using the tldextract library,  which handles cases with secondary level domains and various country codes.  Args:  url: The URL string.  Returns:  The domain name as a string, or an empty string if parsing fails.  """  try:  # tldextract can handle various complex cases like secondary level domains (e.g., .co.uk)  extracted = tldextract.extract(url)  # Properly concatenate the main domain and the TLD  domain\_name = "{}.{}".format(extracted.domain, extracted.suffix) if extracted.suffix else extracted.domain  return domain\_name.lower()  except Exception as e:  # Generic exception handling if URL parsing fails  return ""  # Example usage  print(get\_domain\_name("http://www.example.co.uk")) # Should return 'example.co.uk' | |  |
| 18. | roman\_numeral\_map = {  "I": 1,  "V": 5,  "X": 10,  "L": 50,  "C": 100,  "D": 500,  "M": 1000,  }  def int\_to\_roman(num):  """  This function converts an integer to a Roman numeral string.  Args:  num: An integer between 1 and 3999.  Returns:  A string representing the Roman numeral equivalent of the integer.  """  result = ""  for key, value in sorted(roman\_numeral\_map.items(), reverse=True):  while num >= value:  result += key  num -= value  return result  def roman\_to\_int(roman\_num):  """  This function converts a Roman numeral string to an integer value.  Args:  roman\_num: A string representing a valid Roman numeral.  Returns:  An integer equivalent to the Roman numeral.  """  sum = 0  prev = 0  for char in roman\_num:  current = roman\_numeral\_map[char]  # Handle subtractive notation (IV, IX)  if current <= prev:  sum += current  else:  sum = sum - prev + current  prev = current  return sum | Tika papildinātas funkcijas, lai pielāgotos testiem nācās pievienot klasi ‘RomanNumerals’, kā arī ‘roman\_numeral\_map’ tika pārnesta uz ‘from\_roman’ funkciju. Taču šādas tika piedāvātas funkcijas, ar nosacījumu, ka ‘roman\_numeral\_map’ paliek ārpus tām: def int\_to\_roman(num):  roman\_pairs = [  (1000, "M"), (900, "CM"), (500, "D"), (400, "CD"),  (100, "C"), (90, "XC"), (50, "L"), (40, "XL"),  (10, "X"), (9, "IX"), (5, "V"), (4, "IV"), (1, "I")  ]  result = ""  for value, numeral in roman\_pairs:  while num >= value:  result += numeral  num -= value  return result def roman\_to\_int(roman\_num):  sum = 0  prev = 0  for char in roman\_num:  current = roman\_numeral\_map[char]  if current > prev:  sum += current - 2 \* prev # Correcting for the previous addition  else:  sum += current  prev = current  return sum | |  |
| 19. | ones = {  "zero": 0,  "one": 1,  "two": 2,  "three": 3,  "four": 4,  "five": 5,  "six": 6,  "seven": 7,  "eight": 8,  "nine": 9,  }  teens = {  "ten": 10,  "eleven": 11,  "twelve": 12,  "thirteen": 13,  "fourteen": 14,  "fifteen": 15,  "sixteen": 16,  "seventeen": 17,  "eighteen": 18,  "nineteen": 19,  }  tens = {  "twenty": 20,  "thirty": 30,  "forty": 40,  "fifty": 50,  "sixty": 60,  "seventy": 70,  "eighty": 80,  "ninety": 90,  }  hundreds = {  "hundred": 100,  }  thousands = {  "thousand": 1000,  }  millions = {  "million": 1000000,  }  def word\_to\_num(words):  """  This function converts a string in words to an integer.  Args:  words: A string representing a number in words.  Returns:  An integer equivalent to the number in words.  """  words = words.strip().lower().split() # Preprocess the string  result = 0  i = 0  while i < len(words):  if words[i] in millions:  result += millions[words[i]] \* int\_from\_group(words[i + 1:])  i += 2  elif words[i] in thousands:  result += thousands[words[i]] \* int\_from\_group(words[i + 1:])  i += 2  elif words[i] in hundreds:  result += hundreds[words[i]] \* int\_from\_group(words[i + 1:])  i += 2  elif i + 1 < len(words) and words[i + 1] in tens: # Handle tens (twenty, thirty, etc.)  result += tens[words[i + 1]]  if words[i] != "zero": # Handle "twenty one" vs. "one"  result += int\_from\_group(words[i:])  i += 2  elif i + 1 < len(words) and words[i + 1] in teens: # Handle teens (eleven, twelve, etc.)  result += teens[words[i + 1]]  i += 2  elif words[i] in ones:  result += ones[words[i]]  i += 1  else:  raise ValueError(f"Invalid word: {words[i]}") # Handle unexpected word  return result  def int\_from\_group(group):  """  This function processes a group of words (e.g., "one hundred") and returns the corresponding integer.  """  if len(group) == 0:  return 0  if len(group) == 1:  return ones[group[0]]  # Handle optional "and" between words  if group[1] == "and":  return ones[group[0]] + int\_from\_group(group[2:])  else:  return int\_from\_group(group[1:]) | Pirms funkcijas bija jāatstāj visi mainīgie: ones, teens, tens utt.: ones = {  "zero": 0,  "one": 1,  "two": 2,  "three": 3,  "four": 4,  "five": 5,  "six": 6,  "seven": 7,  "eight": 8,  "nine": 9,  }  teens = {  "ten": 10,  "eleven": 11,  "twelve": 12,  "thirteen": 13,  "fourteen": 14,  "fifteen": 15,  "sixteen": 16,  "seventeen": 17,  "eighteen": 18,  "nineteen": 19,  }  tens = {  "twenty": 20,  "thirty": 30,  "forty": 40,  "fifty": 50,  "sixty": 60,  "seventy": 70,  "eighty": 80,  "ninety": 90,  }  hundreds = {  "hundred": 100,  }  thousands = {  "thousand": 1000,  }  millions = {  "million": 1000000,  }  def parse\_int(words):  words = words.lower().replace(" and", "").split()  num\_dict = {\*\*ones, \*\*teens, \*\*tens, \*\*hundreds, \*\*thousands, \*\*millions}  total = 0  current = 0  for word in words:  if word in num\_dict:  value = num\_dict[word]  if value < 100:  current += value  else:  current \*= value  elif word == "hundred":  current \*= 100  elif word in ("thousand", "million"):  current \*= num\_dict[word]  total += current  current = 0  return total + current | |  |
| 20. | def format\_duration(seconds):  """  This function formats a duration (given as seconds) in a human-friendly way.  Args:  seconds: A non-negative integer representing the duration in seconds.  Returns:  A string containing the human-readable duration.  """  units = [("year", 365 \* 24 \* 60 \* 60), ("day", 24 \* 60 \* 60), ("hour", 60 \* 60), ("minute", 60), ("second", 1)]  results = []  for unit, value in units:  if seconds >= value:  count = seconds // value  seconds -= count \* value  results.append(f"{count} {unit + ('s' if count > 1 else '')}")  return "now" if not results else ", ".join(results[:-1]) + " and " + results[-1] | def format\_duration(seconds):  if seconds == 0:  return "now"  units = [("year", 365 \* 24 \* 60 \* 60), ("day", 24 \* 60 \* 60), ("hour", 60 \* 60), ("minute", 60), ("second", 1)]  results = []  for unit, value in units:  if seconds >= value:  count = seconds // value  seconds %= value # This is equivalent to seconds -= count \* value  results.append(f"{count} {unit}{'s' if count > 1 else ''}")  if len(results) == 1:  return results[0]  elif len(results) == 2:  return results[0] + " and " + results[1]  else:  return ", ".join(results[:-1]) + " and " + results[-1]  # Example usage  print(format\_duration(3662)) # Expected output: "1 hour, 1 minute and 2 seconds" | |  |
| 18. | class RomanNumerals:  @staticmethod  def to\_roman(val: int) -> str:  # Define the mapping of integer values to Roman numerals  int\_to\_roman\_map = {  1000: 'M',  900: 'CM',  500: 'D',  400: 'CD',  100: 'C',  90: 'XC',  50: 'L',  40: 'XL',  10: 'X',  9: 'IX',  5: 'V',  4: 'IV',  1: 'I'  }    # Initialize the result string  result = ''    # Iterate through the integer values in descending order  for integer in sorted(int\_to\_roman\_map.keys(), reverse=True):  # Append the corresponding Roman numeral to the result while subtracting the integer value  while val >= integer:  result += int\_to\_roman\_map[integer]  val -= integer    return result | Netika saņemta izlabots kods – pievienota otra funkcija. | | |
| 19. | def parse\_int(string):  # Define a mapping between words and their numerical values  word\_to\_number = {  'zero': 0,  'one': 1,  'two': 2,  'three': 3,  'four': 4,  'five': 5,  'six': 6,  'seven': 7,  'eight': 8,  'nine': 9,  'ten': 10,  'eleven': 11,  'twelve': 12,  'thirteen': 13,  'fourteen': 14,  'fifteen': 15,  'sixteen': 16,  'seventeen': 17,  'eighteen': 18,  'nineteen': 19,  'twenty': 20,  'thirty': 30,  'forty': 40,  'fifty': 50,  'sixty': 60,  'seventy': 70,  'eighty': 80,  'ninety': 90,  'hundred': 100,  'thousand': 1000,  'million': 1000000  }    # Split the input string into individual words  words = string.replace('-', ' ').split()    # Initialize variables to track the total value and the current value  total = 0  current = 0    # Iterate through the words  for word in words:  # If the word represents a numerical value, add it to the current value  if word in word\_to\_number:  current += word\_to\_number[word]  # If the word represents a multiple of 100, multiply the current value by it  elif word == 'hundred':  current \*= 100  # If the word represents a multiple of 1000 or 1000000, multiply the current value by it and add it to the total  elif word in ['thousand', 'million']:  total += current \* word\_to\_number[word]  current = 0    # Add the remaining current value to the total  total += current    return total | def parse\_int(string):  word\_to\_number = {  'zero': 0, 'one': 1, 'two': 2, 'three': 3, 'four': 4,  'five': 5, 'six': 6, 'seven': 7, 'eight': 8, 'nine': 9,  'ten': 10, 'eleven': 11, 'twelve': 12, 'thirteen': 13,  'fourteen': 14, 'fifteen': 15, 'sixteen': 16, 'seventeen': 17,  'eighteen': 18, 'nineteen': 19, 'twenty': 20, 'thirty': 30,  'forty': 40, 'fifty': 50, 'sixty': 60, 'seventy': 70,  'eighty': 80, 'ninety': 90, 'hundred': 100, 'thousand': 1000,  'million': 1000000  }    words = string.replace('-', ' ').split()  total = 0  current = 0    for word in words:  if word in word\_to\_number:  num = word\_to\_number[word]  if num < 100:  current += num  else:  current \*= num  elif word == 'thousand' or word == 'million':  total += current  current = 0    total += current  return total | |  |