QUESTION 1 OF 80

DLBAIINLP01_MC_leicht/Lektion 01

When did NLP develop as a technical discipline?

Select one:

- ☐ In the 1970s
- ☐ In the 1980s
- ☐ In the 1960s
- ☐ In the 1950s

The correct answer is: In the 1950s

QUESTION 2 OF 80

DLBAIINLP01_MC_leicht/Lektion 01

Who was the developer of the computer program ELIZA?

Select one:

- ☐ Joseph Weizenbaum
- ☐ Marvin Minsky
- ☐ John McCarthy
- ☐ Alan Turing

The correct answer is: Joseph Weizenbaum

QUESTION 3 OF 80

DLBAIINLP01_MC_leicht/Lektion 01

If a text is split into individual units, how are these units referred to?

Select one:

- ☐ Items
- ☐ Tokens
- ☐ Stopwords
- ☐ Words

The correct answer is: Tokens

QUESTION 4 OF 80

DLBAIINLP01_MC_leicht/Lektion 01

What does intonation **not** include?

Select one:

- ☐ Pauses between utterances
- ☐ Acceleration and deceleration of rhythmic patterns
- ☐ Higher and lower melodic patterns
- ☐ Variations of pitch

The correct answer is: Pauses between utterances

QUESTION 5 OF 80

DLBAIINLP01_MC_mittel/Lektion 01

Mark the correct statement.

Select one:

- ☐ Semantics is about the structure of a sentence.
- ☐ Semantics deals with the meaning of a sentence.
- ☐ Semantics deals about the melody of a sentence.
- ☐ Semantics refers to the pronounciation of asentence.

The correct answer is: Semantics deals with the meaning of a sentence.

QUESTION 6 OF 80

DLBAIINLP01_MC_mittel/Lektion 01

When did the first NLP winter start?

Select one:

- ☐ 1970
- ☐ 1972
- ☐ 1958
- ☐ 1964

The correct answer is: 1964

QUESTION 7 OF 80

DLBAIINLP01_MC_mittel/Lektion 01

The ability of a system to draw conclusions from inputs based on a knowledge base is referred to as…

Select one:

- … ambiguity.
- … verifiability.
- … inference.
- … expressiveness.

The correct answer is: … inference.

QUESTION 8 OF 80

DLBAIINLP01_MC_schwer/Lektion 01

What kind of elements form the final sentence built on a formal grammar?

Select one:

- Variables
- Rules
- Nonterminals
- Terminals

The correct answer is: Terminals

QUESTION 9 OF 80

DLBAIINLP01_MC_schwer/Lektion 01

How are elements like loudness, pitch, or duration referred to?

Select one:

- Suprasegmental properties
- Supersegmental properties
- Subsegmental properties
- Segmental properties

The correct answer is: Suprasegmental properties

QUESTION 10 OF 80

DLBAIINLP01_MC_schwer/Lektion 01

What tokenization method has been applied to the following text tokens:
["they", "are", "n't", "at", "home"]

Select one:

- ☐ Whitespace tokenization
- ☐ Punctuation-based tokenization
- ☐ Treebank word tokenization
- ☐ Part-of-speech tokenization

The correct answer is: Treebank word tokenization

QUESTION 11 OF 80

DLBAIINLP01_MC_leicht/Lektion 02

What does quantization do?

Select one:

- ☐ Transforms an analog into a digital signal
- ☐ Transforms a continuous into a discrete signal
- ☐ Transforms a signal from the time into the frequency domain
- ☐ Transforms a signal from the frequency domain into the time domain

The correct answer is: Transforms an analog into a digital signal

QUESTION 12 OF 80

DLBAIINLP01_MC_leicht/Lektion 02

Where is the information what we want to speak generated?

Select one:

- ☐ In the ear
- ☐ In the brain
- ☐ In the mouth
- ☐ In the articulary organs

The correct answer is: In the brain

QUESTION 13 OF 80

DLBAIINLP01_MC_leicht/Lektion 02

How are sounds without vocal cord vibration referred to?

Select one:

- ☐ Phonemes
- ☐ Voiceless
- ☐ Syllables
- ☐ Voiced

The correct answer is: Voiceless

QUESTION 14 OF 80

DLBAIINLP01_MC_leicht/Lektion 02

For what sounds is the nose required in the English language?

Select one:

- ☐ [a], [e]
- ☐ [p], [t]
- ☐ [m], [n]
- ☐ [b], [g]

The correct answer is: [m], [n]

QUESTION 15 OF 80

DLBAIINLP01_MC_mittel/Lektion 02

Organize the levels of the speech production process into the correct order:
(1) Grammatical encoding
(2) Phonological encoding
(3) Articulation
(4) Conceptual preparation

Select one:

- ☐ (4) -> (2) -> (1) -> (3)
- ☐ (4) -> (1) -> (2) -> (3)
- ☐ (4) -> (3) -> (1) -> (2)
- ☐ (3) -> (4) -> (1) -> (2)

The correct answer is: (4) -> (2) -> (1) -> (3)

QUESTION 16 OF 80

DLBAIINLP01_MC_mittel/Lektion 02

Which process is necessary for a computer to be able to process speech signals?

Select one:

- ☐ Fourier transform
- ☐ Classification
- ☐ Analog-to-digital conversion
- ☐ Ditigal-to-Analog conversion

The correct answer is: Analog-to-digital conversion

QUESTION 17 OF 80

DLBAIINLP01_MC_mittel/Lektion 02

What is the most influencing factor when consonants are formed?

Select one:

- ☐ The vocal folds
- ☐ The speed of the airflow
- ☐ The place where the airflow is blocked
- ☐ The position of the tongue

The correct answer is: The place where the airflow is blocked

QUESTION 18 OF 80

DLBAIINLP01_MC_schwer/Lektion 02

Which of the following statements is true?

Select one:

- ☐ Vowels are shorter than consonants.
- ☐ Vowels are produced by blocking the airflow.
- ☐ Semivowels are always unvoiced.
- ☐ Consonants can either be voiced or unvoiced.

The correct answer is: Consonants can either be voiced or unvoiced.

QUESTION 19 OF 80

DLBAIINLP01_MC_schwer/Lektion 02

Which frequency can at maximum be reconstructed if the sampling rate is set to 1 kHz

Select one:

- ☐ 500 Hz
- ☐ 1500 Hz
- ☐ 2 kHz
- ☐ 1000 Hz

The correct answer is: 500 Hz

QUESTION 20 OF 80

DLBAIINLP01_MC_schwer/Lektion 02

Which of the following transcriptions was **not** made using ARPAbet?

Select one:

- [b ey k ix ng]
- [s eh l]
- [θ ɪ ŋ k]
- [jh aa r]

The correct answer is: [θ ɪ ŋ k]

QUESTION 21 OF 80

DLBAIINLP01_MC_leicht/Lektion 03

If transcription is done using the IPA symbols, it is called…

Select one:

- … semantic annotation.
- … phonetic transcription.
- … text annotation.
- … orthographic transcription.

The correct answer is: … phonetic transcription.

QUESTION 22 OF 80

DLBAIINLP01_MC_leicht/Lektion 03

For which kind of tasks can BLEU be used?

Select one:

- Only for machine translation
- Only for n-grams
- For tasks like machine translation, text summarization or language generation
- Only for text summarization

The correct answer is: For tasks like machine translation, text summarization or language generation

QUESTION 23 OF 80

DLBAIINLP01_MC_leicht/Lektion 03

Which statement is true about the F-score?

Select one:

- ☐ The F-Score combines precision and accuracy into one single score.
- ☐ The F-Score is the inverse of the accuracy.
- ☐ The F-Score combines precision and recall into one single score.
- ☐ The F-Score is another word for accuracy.

The correct answer is: The F-Score combines precision and recall into one single score.

QUESTION 24 OF 80

DLBAIINLP01_MC_leicht/Lektion 03

Which of the following statements is completely true?

Select one:

- ☐ In supervised learning, training data consists of a pair of input and output vectors.
- ☐ In unsupervised learning, training data consists of a pair of input and output vectors.
- ☐ In supervised learning, training data consists of unlabeled data.
- ☐ In unsupervised learning, training data consists of labeled data.

The correct answer is: In supervised learning, training data consists of a pair of input and output vectors.

QUESTION 25 OF 80

DLBAIINLP01_MC_mittel/Lektion 03

Which of the following statements is true for MT?

Select one:

- ☐ To evaluate fluency, the evaluator does not have to be fluent in the source and the language.
- ☐ To evaluate fluency, the evaluator has to be fluent in the source language.
- ☐ To evaluate fluency, the evaluator has to be fluent in the source and the language.
- ☐ To evaluate fluency, the evaluator has to be fluent in the target language.

The correct answer is: To evaluate fluency, the evaluator has to be fluent in the target language.

QUESTION 26 OF 80

DLBAIINLP01_MC_mittel/Lektion 03

What kind of information is reflected in the confusion matrix?

Select one:

- ☐ The entropy of an algorithm
- ☐ The complexity of an algorithm
- ☐ The confusion of an algorithm
- ☐ The performance of an algorithm

The correct answer is: The performance of an algorithm

QUESTION 27 OF 80

DLBAIINLP01_MC_mittel/Lektion 03

How are fluency and adequacy normally measured?

Select one:

- ☐ On a document level
- ☐ On a paragraph level
- ☐ On a word level
- ☐ On a sentence level

The correct answer is: On a sentence level

QUESTION 28 OF 80

DLBAIINLP01_MC_schwer/Lektion 03

Analyzing how good the information from a source text is contained in the target text is referred to as…

Select one:

- … precision.
- … fluency.
- … accuracy.
- … adequacy.

The correct answer is: … adequacy.

QUESTION 29 OF 80

DLBAIINLP01_MC_schwer/Lektion 03

What kind of results are identified as false negatives?

Select one:

- results that have correctly been classified as negative
- results that have been classified as positive correcly
- results that have been classified as negative but should be positive
- results that have been classified as positive but should be negative

The correct answer is: results that have been classified as negative but should be positive

QUESTION 30 OF 80

DLBAIINLP01_MC_schwer/Lektion 03

What does BLEU stand for in machine translation?

Select one:

- Bilingual evaluation understanding
- Binary language evaluation understudy
- Bilingual evaluation understudy
- Binary language evaluation understanding

The correct answer is: Bilingual evaluation understudy

QUESTION 31 OF 80

DLBAIINLP01_MC_leicht/Lektion 04

What kind of input does the neural network in Word2Vec expect?

Select one:

- ☐ A word list
- ☐ A vector
- ☐ A neural network
- ☐ A single number

The correct answer is: A vector

QUESTION 32 OF 80

DLBAIINLP01_MC_leicht/Lektion 04

By which institution was the BERT approach introduced?

Select one:

- ☐ IBM
- ☐ Massachusetts Institute of Technologie
- ☐ Carnegie Mellon University
- ☐ Google Research

The correct answer is: Google Research

QUESTION 33 OF 80

DLBAIINLP01_MC_leicht/Lektion 04

What is used to express repetitions in regular expressions?

Select one:

- ☐ Anchors
- ☐ Character classes
- ☐ Disjunctions
- ☐ Quantifiers

The correct answer is: Quantifiers

QUESTION 34 OF 80

DLBAIINLP01_MC_leicht/Lektion 04

If the number of occurrences of a term in a document doubles while the rest of the documents does **not** change, the document frequency will…

Select one:

- … decrease.
- … not change.
- ... increase.
- … double.

The correct answer is: … not change.

QUESTION 35 OF 80

DLBAIINLP01_MC_mittel/Lektion 04

Which statement is true about rule-based systems?

Select one:

- It is difficult to understand how a result has been generated.
- It is a data-driven approach.
- It requires experts to set up the rules.
- It is easy to transfer the model to another domain.

The correct answer is: It requires experts to set up the rules.

QUESTION 36 OF 80

DLBAIINLP01_MC_mittel/Lektion 04

What does a cosine similarity of one indicate for two word vectors?

Select one:

- Both word vectors are the same.
- The word vectors point in different directions.
- Both word vectors are independent from each other.
- The word vectors are different.

The correct answer is: Both word vectors are the same.

QUESTION 37 OF 80

DLBAIINLP01_MC_mittel/Lektion 04

Given the example text "I prefer drinking coffee over drinking tea", which minimum length will the resulting BoW vector have?

Select one:

- ☐ Five
- ☐ Four
- ☐ Six
- ☐ Seven

The correct answer is: Six

QUESTION 38 OF 80

DLBAIINLP01_MC_schwer/Lektion 04

Which of the following strings does **not** match with the regular expression "he[l]*o [Ww]?orld"

Select one:

- ☐ helllo world
- ☐ hello orld
- ☐ heo World
- ☐ heo Wworld

The correct answer is: heo Wworld

QUESTION 39 OF 80

DLBAIINLP01_MC_schwer/Lektion 04

Which of the following strings does **not** match with the regular expression "€\s\d+.[0-9]*"

Select one:

- ☐ € .99
- ☐ € 1.99
- ☐ € 1.9
- ☐ € 10.99

The correct answer is: € .99

QUESTION 40 OF 80

DLBAIINLP01_MC_schwer/Lektion 04

What asumption does a unigram language model make?

Select one:

- ☐ The probability of each word is independent of the preceding words.
- ☐ The probability of each word depends on the corresponding bigram.
- ☐ The probability of each word depends on the preceding word.
- ☐ The probability distribution for each word is the same.

The correct answer is: The probability of each word is independent of the preceding words.

QUESTION 41 OF 80

DLBAIINLP01_MC_leicht/Lektion 05

Speech recognition is also known as…

Select one:

- ☐ … speech-to-text.
- ☐ … text-to-speech.
- ☐ … speech synthesis.
- ☐ … speech understanding.

The correct answer is: … speech-to-text.

QUESTION 42 OF 80

DLBAIINLP01_MC_leicht/Lektion 05

Speech synthesis is also known as…

Select one:

- … speech-to-text.
- … speech understanding.
- … speech synthesis.
- … text-to-speech.

The correct answer is: … text-to-speech.

QUESTION 43 OF 80

DLBAIINLP01_MC_leicht/Lektion 05

Which of the following statements is true?

Select one:

- On average, speech transmits information five times faster than typing.
- On average, speech transmits information five times slower than typing.
- Speech transmits information at the same speed than typing.
- On average, speech transmits information three times faster than typing.

The correct answer is: On average, speech transmits information three times faster than typing.

QUESTION 44 OF 80

DLBAIINLP01_MC_mittel/Lektion 05

How is the classification of the parts of a text into categories referred to?

Select one:

- Entity classification
- Coreference resolution
- Named entity recognition
- Relationship extraction

The correct answer is: Named entity recognition

QUESTION 45 OF 80

DLBAIINLP01_MC_mittel/Lektion 05

What is pivot machine translation used for?

Select one:

- ☐ To vectorize translation data
- ☐ To find solutions for missing words
- ☐ To tackle the problem of under-resourced languages
- ☐ To generate abstract translations

The correct answer is: To tackle the problem of under-resourced languages

QUESTION 46 OF 80

DLBAIINLP01_MC_mittel/Lektion 05

How are sample conversations to train a chatbot in Rasa referred to?

Select one:

- ☐ Stories
- ☐ News
- ☐ Templates
- ☐ Talks

The correct answer is: Stories

QUESTION 47 OF 80

DLBAIINLP01_MC_leicht/Lektion 05

What was the name of the first chatbot that simulated a psychotherapist?

Select one:

- ☐ BERT
- ☐ ELIZA
- ☐ Deep Blue
- ☐ Eugene Goostman

The correct answer is: ELIZA

QUESTION 48 OF 80

DLBAIINLP01_MC_schwer/Lektion 05

How is named entity recognition in the context of chatbots referred to?

Select one:

- ☐ Entity extraction
- ☐ Name extraction
- ☐ Entity definition
- ☐ Slot filling

The correct answer is: Slot filling

QUESTION 49 OF 80

DLBAIINLP01_MC_schwer/Lektion 05

Which method would you use to find out which part of the following sentence the word 'it' refers to: "My son is outside with the dog because he likes it."

Select one:

- ☐ Coreference resolution
- ☐ Semantic resolution
- ☐ Named entity recognition
- ☐ Relationship extraction

The correct answer is: Coreference resolution

QUESTION 50 OF 80

DLBAIINLP01_MC_schwer/Lektion 05

If one part of a sentence is positive while other parts are negative, what is this referred to as?

Select one:

- ☐ Ambiguity
- ☐ Multipolarity
- ☐ Negation
- ☐ Ambivalence

The correct answer is: Multipolarity

QUESTION 51 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 01

Name the three major subdomains of NLP.

speech recognition, natural language understanding and natural language generation (2 points each)

QUESTION 52 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 01

Describe what verifiability refers to.

The ability of a system to verify a statement (3 points) based on a given model in a knowledge base (3 points)

QUESTION 53 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 01

Name and describe the four levels of the Chomsky hierarchy.

Type 0: recursively enumerable
Type 1: context-sensitive
Type 2: context-free
Type 3: regular grammars
(2 points each)

QUESTION 54 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 01

Describe how prosody can affect the meaning of a sentence.

The intonation can change the meaning of a sentence (2 points).
A rise of the pitch at the end of a sentence can be an indicator for a question (3 points), a final drop can indicate declarative information (3 points).

QUESTION 55 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 01

Explain how the Turing text works.

In the Turing test, a human interrogator uses a computer program to talk to two different conversational partners (3 points).
One of the conversational partners is a human, the other one a machine (2 points). During the conversation, both aim to convince the interrogator of being a human (2 points).
A conversational agent passes the Turing test if the interrogator is not able to identify which of his conversational partners is human (3 points).

QUESTION 56 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 01

Name five reasons why semantics are important in NLP.

ambiguity, vagueness, inference, expressiveness, and verifiability (2 points each).

QUESTION 57 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 02

List which parts of the body are involved in the speaking process.

lungs - respiration
voice box - voice production
mouth - articulation
(2 points each)

QUESTION 58 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 02

Describe what the Fourier transform can be used for in signal processing.

To transfer a signal from the time domain (3 points) into the frequency domain (3 points)

QUESTION 59 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 02

Explain which parameters are necessary to compute the quantization error of a signal and how can it be computed.

Maximum frequency f_max (2 points), minimum frequency f_min (2 points), number of intervals n (2 points).
Error e = (f_max - f_min) / 2n (2 points)

QUESTION 60 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 02

What is the purpose of the epiglottis?

It closes the larynx (voice box) (3 points) to avoid that liquids or food (2 points) get into the trachea and the lungs (3 points)

QUESTION 61 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 02

Name and describe the two phases of breathing and what happens during these phases.

Inhalation (2 points): the diaphragm and the intercostal muscles will contract. This pulls down the lungs and the rib cage and fills the lungs with air as the volume of the lungs increases (3 points).
Exhalation (2 points): the intercostal muscles and the diaphragm relax. This causes the ribs to collapse and therefore decreases the ribcage capacity. Therefore, the air is pushed out of the lungs again (3 points).

QUESTION 62 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 02

Explain the most relevant parameters that characterize vowels.

- Height of the highest part of the tongue (3 points)
- Frontness (1 point) or backness (1 point) depending on if the highest part of the tongue is located more in the front or in the back (2 points)
- Shape of the lips - rounded or not (3 points)

QUESTION 63 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 03

Explain the difference between precision and recall.

Precision denotes the number of positive samples which have been identified correctly in relation to all samples in that class (3 points) while Recall puts them in relation to the total number of samples which should have been identified as positive (3 points)

QUESTION 64 OF 80

DLBAIINLP01_Offen_leicht_F1/Lektion 03

Explain how the poor documentation of under-resourced languages in linguistic literature can be addressed.

Use knowledge and resources from similar languages (3 points) and try to map for instance the phonetics from more resourced languages to the under-resourced language (3 points).

QUESTION 65 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 03

Explain the difference between the development and the test sets.

The development set is used to evaluate the performance of a model during the training process (2 points) while the test set is used to test the model once it has been finalized. (2 points)
While the development set can be used several times (2 points), the test set can only be used once. (2 points)

QUESTION 66 OF 80

DLBAIINLP01_Offen_mittel_F1/Lektion 03

Define which two metrics form the axes of the ROC curve and how these axes can be computed.

- x axis: False positive rate (2 points): FP-rate = FP / (FP + TN) (2 points)
- y axis: true positive rate (2 points): TP-rate = TP / (TP + FN) (2 points)

QUESTION 67 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 03

Name the data sets in which the available data is split in order to develop proper models for AI applications and describe the purpose of the respective data sets.

'- Training data set (1 point): As the name indicates, this data set is used to fit the parameters of an algorithm during the training process (2 points)
- Development set (1 point): This data set is often also referred to as validation set. It is used to evaluate the performance of the model developed using the training set and for further optimization. It is important, that the development set contains data, which have not been included in the training data. (2 points)
- Test set (1 point): Once we have finalized our model using the training and the development set, the test set can be used for a final evaluation of the model. Like for the development set it is important, that the data in the test set has not been used before. The test set is only used once to validate the model which has been developed and to make sure that it is not overfitted. (3 points)

QUESTION 68 OF 80

DLBAIINLP01_Offen_schwer_F1/Lektion 03

Name and explain the four dimensions of language variations.

- diaphasic: related to the situation where communication happens.
- diatopic: refers to the linguistic area (e.g. dialects)
- diachronic: language variations over time
- diastratic: variations based on social groups like age or gender
(2,5 points each)

QUESTION 69 OF 80

DLBAIINLP01_Offen_leicht_F2/Lektion 04

Name the two ways in which BERT has been pre-trained.

Next sentence prediction (3 points) and masked language model (3 points).

QUESTION 70 OF 80

DLBAIINLP01_Offen_leicht_F2/Lektion 04

Explain why it is important in NLP to vectorize data.

Machine learning algorithms only expect numerical data. Therefore a text has to be represented in a way which can be processed by a computer (3 points).
To transfer a text in a numerical format words have to be embedded into a vector space (3 points).

QUESTION 71 OF 80

DLBAIINLP01_Offen_mittel_F2/Lektion 04

Explain the underlying principle of an encoder-decoder architecture in NLP.

The encoder converts the input text into a vector (2 points), which encapsulates all information from the input sequence (2 points).
The decoder then takes the informatoin from the encoded vector (2 points) and converts it back to the original representation (2 points).

QUESTION 72 OF 80

DLBAIINLP01_Offen_mittel_F2/Lektion 04

Name the two different prediction models in Word2Vec. Illustrate the major difference between the models.

- Continuous Bag-of-words (CBOW) (1 point): this model can be used if the goal is to predict one missing word in a fixed window in the context of the other N-1 words. As an input vector, we can either use the average or the sum of the one-hot vector (3 points).
- Skip-gram: (1 point) if we have one single world within a fixed window, with this model we can predict the remaining N-1 context words in this window. (3 points)

QUESTION 73 OF 80

DLBAIINLP01_Offen_schwer_F2/Lektion 04

Explain the difference between stemming and lemmatization and give an example for the difference.

While lemmatization converts words to their base form (3 points), stemming only removes the last few characters (3 points).
Example: caring - lemmatization: care (2 points), stemming: car (2 points).

QUESTION 74 OF 80

DLBAIINLP01_Offen_schwer_F2/Lektion 04

Explain the differences between rule-based and statistical-based techniques.

Rule-based systems use a set of predefined rules to tackle a given problem (2 points). Statistical-based systems follow a data-driven approach (2 points). Statistical-based systems require more (annotated) training data than rule-based systems in order to be properly trained (2 points).
In contrast to rule-based sytsems, statistical-based methods do not require expert knowledge about the domain (2 points). Transferring a model from one domain to another is easier for statistical-based systems (2 points).

QUESTION 75 OF 80

DLBAIINLP01_Offen_leicht_F2/Lektion 05

Name the two models used to represent emotions.

Categorical models (3 points) and dimensional models (3 points)

QUESTION 76 OF 80

DLBAIINLP01_Offen_leicht_F2/Lektion 05

Name two reasons why Python is so popular in the field of machine learning and data science.

- large number of well-written libraries available
- large number of IDEs available
- general-purpose high-level interpreted programming language
(3 points for each reason)

QUESTION 77 OF 80

DLBAIINLP01_Offen_mittel_F2/Lektion 05

Define what the BIO prefix scheme stands for and how is it used.

The BIO prefix scheme indicates the position of a named entity (2 points):
B - beginning of an entity (2 points)
I - inside / continuation of an entity (2 points)
O - outside, a token that does not belong to an entity (2 points).

QUESTION 78 OF 80

DLBAIINLP01_Offen_mittel_F2/Lektion 05

Describe how sentiment analysis can help to improve a product.

Sentiment analysis makes it possible to analyze how customers feel about a certain product over time (3 points) and can therefore also be used to track how customers react to a change (3 points). Moreover, it can analyze how external factors influence the customers' needs and adapt the product accordingly (2 points).

QUESTION 79 OF 80

DLBAIINLP01_Offen_schwer_F2/Lektion 05

Name the five components of a voice assistant.

1. Speech-to-text conversion
2. natural language understanding
3. dialogue management
4. response generation
5. text-to-speech conversion
(2 points each)

QUESTION 80 OF 80

DLBAIINLP01_Offen_schwer_F2/Lektion 05

Name the five levels of AI assistantas.

Level 1: Notification assistants
Level 2: FAQ assistants
Level 3: contextual assistants
Level 4: personalized assistants
Level 5: autonomous organization of assistants (2 points each)