1. Fill in the gap.

For security reasons many systems and applications are getting to apply an authentication based on **biometric** data.

1. The speaker identification task involves 3 research areas:

1. **feature extraction**

2. **feature normalization**

3. **classification and decision**

1. Speech features for identification are divided into more levels:

x **Acoustic**

□ Lower level features

x **Prosodic**

x **Higher level features**

1. Which of the following categories does not belong to classification methods that are used to take decision about the speaker identity based on speech features:

□ Parametric methods

x **Approximation methods**

□ Nonparametric methods

□ Discriminative methods

1. The main purpose of the speech signal is to convey lexical information. However, it contains additional information e.g. speaker specific that include:

1. **physical property of vocal organs: size, toughness, shape, etc.**

2. **temper and health condition**

3. **education, origin, social background**

1. Assign the correct definition?

1. Identification **(3)**

2. Authentication **(1)**

3. Authorization **(2)**

**1** – after identification string or token is accepted, user has to prove his identity.

**2** – allow or deny user access to the requested content or to a set of actions under based on his access rights

**3** – user is identified by token or identification string (phone number or email address)

1. Complete the entities involved in the authentication process.



Authetication mechanism

Database

System

Input mechanism

Availability

Security and Vulnerability

Technology

Human

factors

Authentication mechanism, System, Database, Input mechanism

1. Fill in objects belonging to access control model.

Object

Operation

Subject

Classification

(Mandatory Access Control MAC)

Role

(Role-Based Access Control RBAC)

Permission

Operation

Subject, Object, Operation, Permission, Classification, Role