Lab3

Cloud Shell
- A browser-based terminal accessible via the Azure Portal.
- Pre-installed with popular tools: Azure CLI, Azure PowerShell, Terraform, Git, etc.
- Persistent storage via a mounted Azure File Share.

Azure PowerShell
- A set of cmdlets to manage Azure resources directly from PowerShell.
- Useful for scripting, automation, and bulk operations (like creating VMs, assigning roles, etc.).
- Can be used inside Cloud Shell, locally, or in CI/CD pipelines.

Azure Storage Services

1. Blob Storage
- For storing unstructured data like images, videos, documents, backups.
- Supports tiers: Hot, Cool, and Archive (for cost-effective storage).
- Used heavily in web apps, backups, and data lakes.

2. Table Storage
- A NoSQL key-value store for structured, schemaless data.
- Fast and cheap for storing large amounts of simple data.
- Commonly used for logging, configurations, or metadata.

3. Queue Storage
- Stores and manages message queues between components of cloud applications.
- Ensures asynchronous communication, decoupling producers and consumers.
- Reliable and scalable message delivery.

Azure Cognitive Services (AI APIs)

1. Face API
Detects and recognizes human faces in images.
Can identify people, emotions, facial attributes (age, gender, smile, etc.).
Supports face verification and grouping.

2. Bing Search APIs
Provides access to web search, news, images, videos, and autosuggestions.
Useful for integrating search functionality into apps

3. Translator
- Real-time or batch language translation for 100+ languages.
- Supports text, document, and speech translation.
- Can be embedded into web/mobile apps or chatbots.

4. Speech Recognition
- Converts spoken language to text in real-time.
- Also supports speech synthesis (text-to-speech) and speaker identification.
- Often used in voice assistants or transcription services.

5. Computer Vision
- Analyzes images and videos to extract information:
- Object detection, OCR, image description, tagging, etc.
- Enables automated content moderation, captioning, and document analysis.

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Azure Bot Service
A platform to build, deploy, and manage intelligent bots.

Works with multiple channels: Microsoft Teams, WhatsApp, Facebook Messenger, etc.

Can be powered by:
- QnA Maker (FAQ-based bots)
- LUIS (Natural Language Understanding)
- Azure Functions or custom code
- Integrated with Azure Cognitive Services for AI-powered responses (speech, language, vision).