SESSION-01 TASKS

Task 1:

Question: AI EXAMPLES SOLUTION WITHOUT DATA?

Answer:

Chatbot: A chatbot is a text-based conversational agent that is programmed to understand and respond to natural language input. A chatbot can be trained to understand simple queries and provide relevant answers using pre-defined responses.

Image Recognition System: An image recognition system uses computer vision techniques to identify and classify objects within an image. This can be done using deep learning algorithms, which analyze images based on features such as shape, color, and texture.

Sentiment analysis: Sentiment analysis is a process of analyzing the emotion behind a piece of text. This is done using machine learning algorithms that are trained to recognize the positive, negative, or neutral sentiment of a piece of text.

Music generation: AI can be used to generate music by analyzing existing music and learning patterns to create new compositions. This can be done using deep learning algorithms such as recurrent neural networks (RNNs).

Object detection: Object detection is a technique used to identify and locate objects within an image or video. This can be done using machine learning algorithms that are trained on a dataset of images and their corresponding labels.

Task 2:

Question: What Are Egyptian Companies Using AI and Their Field?

Answer:

1. creatokids : artificial intelligence educational app as smart English tutor anytime .

2. Webville : Artville is an AI studio that automates photo-editing

3. Hubnsub.com: PortaPeople is a systems development establishment.HubnSub is a software as a service application that aims to automate service requests between departments in the prospect organizations.

4. E-sorus :A B2B Platform for sourcing interior and Architecture materials

A B2B Platform for interior sourcing solutions, gathering all qualified suppliers, connecting them with professional Designers, contractors and property developers,
and giving them technical support.

5. happygnition : Make the work a better place

advanced HR system for the new era that powered by IoT and AI tech to make the work environment a better happy place

6. Paylee: Providing consumer behavior knowledge to brands by digitizing receipt info

Paylee is creating a product which is allowing it to digitize the payment trail of consumers to help brands make informed decisions. The product is an API that is easily embedded within a merchant POS system which allows the merchant to accept payments from a mobile wallet through QR code.

8. Careerk: Resources Tech Startup

we actively connect people with their next great opportunity with our powerful AI technology that creates the best match.

9. VISIT AUDITOR : A development platform for auditing , Using a artificial intelligence.

A development platform for auditing ,financial,Consulting, Digital accounting for companies, Using a artificial intelligence , and It was used for of innovative solutions.Modern Corporation entered the field of business since 2017. The company, has Business experts more than 15 years

10. Seen tech : Intelligent Video Analytics

Seen tech is an intelligent video analytics startup. Seen offers an intelligent retail analytics solution.

11. Cassbana: uses AI to run a behavior-based credit scoring system, which determines individuals and businesses ' access to credit.

12. WideBot : is a Conversational AI Platform that build AI-enabled chatbots that communicate in formal and informal Middle Eastern languages.

13. MerQ : Artificial intelligence startup specialized in developing cognitive chatbots in the form of virtual assistants in financial sector.

14. DilenyTech: is a health tech startup that develops AI and medical imaging solutions to improve the quality of healthcare.

15. Botme : is a standalone platform for building chatbots for businesses and managing the whole business processes

16. Werpx : AI Supply Chain Management Solution .

17. Webville : is an artificial intelligence company focused on content and computer vision solutions.

18. Talents Arena: is an AI-powered technical hiring platform.

19. "DevisionX": is coming from using "Deep" learning in "X" of machine "Vision" solutions in "X" fields of industries.

20. Qme Solutions: is a AI-based digital queuing solution to banks,Telecom operators and Government entities.

21. Print-Life: is a medical 3D printing company that has created a variety of artificial intelligence and 3D cloud solutions.

22. Autotell: is a platform to communicate with your car, on road analytics, detecting faults, instant driver advice with AI personal assistant

23. Mozn: is the market leader in building and deploying bespoke AI solutions in the region, and developing Arabic NLP data products globally.

24. Zr3i.com : The First Pioneer Arabic Digital Agriculture Saas Platform

25. HireHunt: helps employers and recruiters hire faster with a powerful toolset of recruitment technologies powered by AI.

26. Humachina: Human-centered Artificial Intelligence research-based startup to reinvent the way people learn and perform.

27. Intixel : AI-powered Solutions for Diagnostic Imaging

28. Optomatica: Deep-tech software consulting company specialize in AI, ML and Optimization.

29. <u>A-eye Tech</u>: provides technological solutions like AI, video analytics, data science & deep machine learning solutions to businesses.

30. <u>Synapse Analytics</u>: offers help for businesses to build competitive advantage by leveraging their data and adopting Artificial intelligence.

31. <u>Aprenda Learning</u>: provides AI platform to generate learning and teaching content for educators in order to improve educational outcomes.

32. <u>RISEUP</u> : is a Cairo-based startup accelerator that helps other startups grow and scale up using AI and other technologies.

33. <u>Bionic Power</u> : uses AI-powered robots to inspect and maintain wind turbines. Based in Cairo, they have partnerships with several large energy companies.

34. <u>MaxAB</u> : is an online grocery platform that uses AI to optimize delivery routes and minimize waste. They're currently operating in Egypt, Saudi Arabia, and Sudan.

35. <u>Vezeeta</u> : is a healthcare booking platform that uses AI to match patients with the right doctors and clinics. They're based in Cairo and operate across the Middle East and Africa.

36. <u>Trella</u> : is a logistics startup that uses AI to connect shippers with truck drivers. They're based in Cairo and are expanding rapidly throughout the region.

Task 3:

Question: What are Interpreted and Compiled Programming Languages?

Answer:

Compiled Language	Interpreted Language
Compiled language follows at least two levels to get from source code to execution.	Interpreted language follows one step to get from source code to execution.
A compiled language is converted into machine code so that the processor can execute it.	An interpreted language is a language in which the implementations execute instructions directly without earlier compiling a program into machine language.
The compiled programs run faster than interpreted programs.	The interpreted programs run slower than the compiled program.
In a compiled language, the code can be executed by the CPU.	In Interpreted languages, the program cannot be compiled, it is interpreted.
This language delivers better performance.	This language delivers slower performance.

Interpreted languages are those that execute code directly without conversion to another form, while **compiled languages** are those that first convert the code into machine-readable form before executing it.

Compiled languages:

C

C++

Java (to some extent, as it is both compiled and interpreted)

Rust

Go

Interpreted languages:

Python

Ruby

JavaScript

PHP

Perl

Some languages can be both compiled and interpreted, depending on how they are executed:

Java (as mentioned above)

C#

Swift

It's worth noting that the distinction between compiled and interpreted languages is not always clear-cut, and some languages have features of both. For example, some languages like Python can be compiled to bytecode, which is then interpreted by a virtual machine at runtime. Similarly, some compiled languages like C++ can be used with just-in-time (JIT) compilation to dynamically compile and execute code at runtime, blurring the lines between compiled and interpreted languages.

Task 4:

Question: Open Source Vs Not Open Source Programming Languages?

Answer:

open source, meaning their source code is freely available to the public and can be modified, distributed, and used without any licensing fees.

Here are some examples of popular open-source programming languages:

Python

Java

JavaScript

Ruby

PHP

Swift

Go

Rust

Kotlin

TypeScript

Not open source, and their source code is proprietary and owned by a company or individual. Here are some examples of proprietary programming languages:

C# (owned by Microsoft)

Objective-C (owned by Apple)

Visual Basic .NET (owned by Microsoft)

Swift (owned by Apple)

MATLAB (owned by MathWorks)

It's important to note that some proprietary programming languages may have open-source implementations or compilers, which allow developers to use them without licensing fees or restrictions. Additionally, some programming languages may have both open-source and proprietary implementations.

Task 5:

Question: Is R Programming Language?

Answer:

Yes, **R** is a programming language for statistical computing and graphics supported by the R Core Team and the R Foundation for Statistical Computing. It is an open-source language

Yes, R is a programming language specifically designed for statistical analysis and data visualization. It has a large variety of built-in functions and packages that make data analysis, manipulation, and visualization much easier. It is widely used by data analysts, statisticians, and researchers in various fields such as economics, finance, biology, and marketing.

Task 6 :

Question: POP VS FUNCTION VS OOP Programming Languages?

Answer:

POP (Procedural-Oriented Programming) relies on a step-by-step approach for solving problems by breaking them into smaller blocks of code, utilizing procedures or functions. The syntax and structure of these languages tend to be fairly straightforward, making them easy to learn.

Functions are an integral part of POP languages, and many modern programming languages have a functional programming paradigm. Languages like **C, Fortran, R, Cobol, and Pascal** use procedural programming approaches.

Functional programming focuses on the evaluation of computations rather than executing selected sequences of procedure or set of instructions. Functions take inputs and return outputs, avoiding any side effects to the system. Languages like **Haskell, Lisp, Scheme, and ML** use functional programming paradigms.

On the other hand, **OOP (Object-Oriented Programming)** is a programming paradigm that is based on objects, instead of procedures, for data manipulation. The data and the procedures that operate on those data are encapsulated into objects, which can then be used and reused throughout a program. OOP languages include **Java, Python, Ruby, C++, and Objective-C.**

Task 7:

Question: Low Level vs High Level Programming Languages?

Answer :

Low-level languages are machine-dependent, difficult for humans to read and write, and closer to machine code. Examples of low-level languages are **Assembly language, Machine language or Binary code.**

High-level languages, on the other hand, are machine-independent and easier for humans to read and write. Examples of high-level languages are **Python, Java, C++, Ruby, or JavaScript.**

It's worth noting that the line between low-level and high-level languages is not always clear-cut, and some languages can be considered both depending on the context in which they are used. For example, C is often considered a low-level language because it provides direct access to hardware resources, but it also includes high-level abstractions such as functions and structures. Similarly, some high-level languages such as Python and Java have built-in functionality to interact with low-level hardware resources.