1.DEFINE ARTIFICIAL IINTELLIGENCE(AI)AND PROVIDE EXAMPLES OF ITS APPLICATIONS

Artificial intelligence refers to computer systems capable of performing complex tasks that historically only a human could do, such as reasoning, making decisions, solving problems

Examples of its applications:

***AI IS USED IN ASTRONOMY**

***EDUCATION**

***HEALTHCARE**

***E-COMMERCE**

***AGRICULTURE**

***ENTERTAINMENT**

***ROBOTICS**

2.DIFFERENTIATE BETWEEN SUPERVISED LEARNING AND UN SUPERVISED LEARNING TECHNIQUES IN ML

SUPERVISED LEARNING	UNSUPERVISED LEARNING
1.in this the algorithm is trained	1.in this the algorithm is not trained
2.in this input is given as labelled data	2.in this input given as unlabelled data
3.there are two types of supervised Learning algorithm they are: 1.classification 2.regression	3.there are two types of unsupervised learning algorithm they are: 1.clustering 2.association
4.supervised learning model takes direct feedback to check if it is predicting correct output or not	4.unsupervised learning model does not take any feedback
5.the goal of supervised learning is to train the model so that it can	5.the goal of unsupervised learning is to find the hidden patterns and

predict the output when it is given new data	useful insights from the unknown dataset
6.supervised learning is not close to artificial intelligence	6.unsupervised learning is close to artificial intelligence
7.supervised learning produces an accurate result	7.unsupervised learning may not produce accurate result when compared with supervised

3.what is python? discuss its main features and advantages

ANS: Python is a popular programming language.it was created by Guido van Rossum, and released in 1991

It is used for:

Web development, software development

Features:

1.free and open source

2.easy to code

3.easy to read

4.Object oriented language

5.GUI Programming support

6.high level language

7.large community support

8.easy to debug

9.python is a portable language

10.python is an integrated language

Advantages:

1.presence of third party modules

2.extensive support libraries

3.open source and large active community base

4.versatile, easy to read, learn, and write

5.user friendly data structures

4.what are the advantages of using python as a programming language for ai and ml?

ANS: * Simple and consistent

*Better library ecosystem

*Flexible

*Popular

*Better visualization option

*Readability

*Platform independence

*Rapid development

*Less coding

5.DISCUSS THE IMPORTANCE OF INDENTATION IN PYTHON CODE

ANS: Indentation is a very important concept pf python because without properly indenting the python code, you will end up seeing indentation error and the code will not get compiled

6.DEFINE A VARIABLE IN PYTHON. PROVIDE EXAMPLES OF VALID VARIABLES NAMES

ANS: Variable:

Variable are containers for storing data values

Creating a variable:

Python has no command for declaring a variable

A variable is created the moment you first assign a value to it

Example:

X=3

Y = ” john”

7.EXPLAIN THE DIFFERENCES BETWEEN KEYWORD AND IDENTIFIER IN PYTHON

ANS:

KEYWORD	IDENTIFIER
Specify the type/kind of entity	Identify the name of a particular entity
It always starts with a lowercase letter	First character can be a uppercase, lowercase letter or under score
A keyword can be in lower case	An identifier can be in upper case or lower case
A keyword contains only alphabetical characters	An identifier can consist of alphabetical characters, digits and underscores

8.LIST THE BASIC DATA TYPES AVAILABLE IN PYTHON

ANS: DATATYPES:

Basic data types in python include integers, floating point numbers, strings, Booleans, lists, tuples, dictionaries and sets

9.DESCRIBE THE SYNTAX FOR AN IF STATEMENT IN PYTHON

ANS:

ANS: the syntax for an if statement in python is:

```
If condition:

#code block to execute if condition is true
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10.EXPLAIN THE PURPOSE OF THE ELSE IF STATEMENT IN PYTHON

ANS: the elseif statement in python is used to check additional conditions after the initial if statement. It allows for the evaluation of multiple conditions sequentially. If the condition in the if statement is false, python evaluates the condition in the else if statement