Interview Questions And Answers

by

Love Kumar
DEPARTEMENT OF COMPUTER SCIENCE

DECLARATION

I, **Love Kumar** , hereby declare that, this report entitled **"Interview Questions And Answers"** submitted towards partial requirement of **Bachelor of Technology** in **Computer Science** is an original work carried out by me and has not formed the basis for the award of any degree or diploma, I have sincerely tried to uphold the academic ethics and honesty.

Kottayam-686635 **Love Kumar**

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Chapter 1

python

1.1 Difference Between Iterator VS Generator

Iterator	Generator
Iterators are used mostly to iterate or convert other objects to an iterator using iter() function.	Generators are mostly used in loops to generate an iterator by returning all the values in the loop without affecting the iteration of the loop
Iterator uses iter() and next() functions	Generator uses yield keyword
Every iterator is not a generator	Every generator is an iterator

`iter_list = iter(['Geeks', 'For', 'Geeks'])`
`print(next(iter_list))`
`print(next(iter_list))`
`print(next(iter_list))`
 	
`#output`
`Geeks`
`For`
`Geeks`
	`def sq_numbers(n):`
	`  for i in range(1, n+1):`
	`  yield i*i`
	`a = sq_numbers(3)`
	`print("The square of 1,2,3 are :")`
	`print(next(a))`
	`print(next(a))`
	`print(next(a))`
	`output-> The square of 1,2,3 are :`
	`1`
	`4`
	`9`

1.2 Lists

A list is a data structure in Python that is a mutable, or changeable, ordered sequence of elements. Each element or value that is inside of a list is called an item. Just as strings are defined as characters between quotes, lists are defined by having values between square brackets [ ].

```
lst.append(["Hello","World"])
lst.pop()
```

1.3 SETS

A Set is an unordered collection data type that is iterable, mutable, and has no duplicate elements. Python's set class represents the mathematical notion of a set.This is based on a data structure known as a hash table

```
set_var= set()
set_var={1,2,3,4,3}
```

1.4 Dictionaries

A dictionary is a collection which is unordered, changeable and indexed. In Python dictionaries are written with curly brackets, and they have keys and values.

```
dic={}
```

```
my_dict={"Car1": "Audi", "Car2":"BMW","Car3":"Mercidies Benz"}
for x in my_dict:
    print(x)
Car1
Car2
Car3
```

1.5 Tuples

Tuples are used to store multiple items in a single variable. A tuple is a collection which is ordered and unchangeable.

```
my_tuple=tuple()
my_tuple=("Krish","Ankur","John")
```

Chapter 2

Machine learning

2.1 Machine Learning Core Interview Question

2.1.1 Q1. What are the different types of Machine Learning?

	supervised	Unsupervised	Reinforcement
Definition	The machine learns by using labelled data	The machine is trained on labelled data without any guidance	An agent interacts with its environment by producing actions & discovers errors or rewards
Types of Problems	Regression or Classification	Association or Classification	Reward Based
Types of Data	Labelled Data	Unlabelled Data	No pre-defined data
Training	External Supervision	No Supervision	No Supervision
Approach	Map Labelled input to known output	Understand pattern and discover output	Follow hit & trail and error method

	supervised	Unsupervised	Reinforcement
Popular Algorithms	Linear regression, Logistic regression, SVM, KNN, etc	K-means, C-means, etc	Q-Learning, SARSA, etc

2.1.2 Q2. How does Deep Learning differ from Machine Learning?

Deep Learning	Machine Learning
Deep Learning is a form of machine learning that is inspired by the structure of the human brain and is particularly effective in feature detection.	Machine Learning is all about algorithms that parse data, learn from that data, and then apply what they've learned to make informed decisions.

2.1.3 Q3

2.1.4 Q3. When Will You Use Classification over Regression?

Classification is used when your target is categorical, while regression is used when your target variable is continuous. Both classification and regression belong to the category of supervised machine learning algorithms.

2.1.5 Q4. Explain Classification and Regression

Classification	Regression
The task of the classification algorithm is to find the mapping function to map the input(x) to the discrete output(y).	The task of the Regression algorithm is to find the mapping function to map the input variable(x) to the continuous output variable(y).
Example: The best example to understand the Classification problem is Email Spam Detection. The model is trained on the basis of millions of emails on different parameters, and whenever it receives a new email, it identifies whether the email is spam or not. If the email is spam, then it is moved to the Spam folder.	Example: Suppose we want to do weather forecasting, so for this, we will use the Regression algorithm. In weather prediction, the model is trained on the past data, and once the training is completed, it can easily predict the weather for future days.
Classification algorithms are used to predict/Classify the discrete values such as Male or Female, True or False, Spam or Not Spam, etc.	Regression algorithms are used to predict the continuous values such as price, salary, age, etc.
Types of ML Classification Algorithms: Logistic Regression K-Nearest Neighbours Support Vector Machines Kernel SVM Naïve Bayes Decision Tree Classification Random Forest Classification	Types of Regression Algorithm: Simple Linear Regression Multiple Linear Regression Polynomial Regression Support Vector Regression Decision Tree Regression Random Forest Regression