***Report for Model evaluation in different parameters***

***Analysis-1***

**Learning-rate:** 2e-5

**Batch-size:** 8

**Epoch:** 10

**Time-taken:** 2hrs

First command with snap, then apt and followed by apt-get is ordered in the dataset.

Output:

Enter a natural language command (or 'exit' to stop): i want to install vim

Predicted Bash Command: sudo snap install vim

Enter a natural language command (or 'exit' to stop): ho do i download and install android studio

Predicted Bash Command: sudo snap install android-studio

Enter a natural language command (or 'exit' to stop): i want to update expressvpn

Predicted Bash Command: sudo snap refresh expressvpn

Enter a natural language command (or 'exit' to stop): how do i delete python

Predicted Bash Command: sudo snap remove python

Enter a natural language command (or 'exit' to stop): i want to install google chrome

Predicted Bash Command: sudo snap install google chrome

Enter a natural language command (or 'exit' to stop): what is the command to install mysql

Predicted Bash Command: sudo snap install mysql

Enter a natural language command (or 'exit' to stop): what is the command to chrome

Predicted Bash Command: sudo snap refresh chrome

Enter a natural language command (or 'exit' to stop): i want to install sublime text

Predicted Bash Command: sudo snap install sublime-text

Enter a natural language command (or 'exit' to stop): get vs code into my system

Predicted Bash Command: sudo snap install code

Enter a natural language command (or 'exit' to stop): i want to install protonvpn

Predicted Bash Command: sudo snap install protonvpn protonvpn-cli is correct

Enter a natural language command (or 'exit' to stop): how do i install java

Predicted Bash Command: sudo snap install java default-jdk correct

Enter a natural language command (or 'exit' to stop): i need microsoft teams installed on my computer

Predicted Bash Command: sudo snap install teams-microsoft

Enter a natural language command (or 'exit' to stop): i want to use whatsapp for linux can you install it

Predicted Bash Command: sudo snap install whatsapp-for-linux

Enter a natural language command (or 'exit' to stop): i want to use whatsapp can you install it

Predicted Bash Command: sudo snap install whatsapp

**Analysis:**

This model predicted as much we expected. This is a good model. But needs to improved

**Pros:**

* It understands variations in the commands which is Install, Delete, Update
* It predicts “**-**” in android studio and sublime text and predicts only **code** for vs code
* Can ask in any variation for the management tasks
* It recognizes the app names

**Cons:**

* It lags for command with apt and apt-get package manager
* It predicts wrong in the place of chrome and also for python which predicts python only instead of python3
* Words needs to be describe clearly for all the words in the RHS like whatsapp for linux, teams for linux

Needs to be improved somehow.

***Analysis-2***

**Learning-rate:** 5e-5

**Batch-size:** 8

**Epoch:** 10

**Time-taken:** 2hrs

First command with snap, then apt and followed by apt-get is ordered in the dataset.

Output:

Enter a natural language command (or 'exit' to stop): i want to install vim

Predicted Bash Command: sudo snap install vim

Enter a natural language command (or 'exit' to stop): ho do i download and install android studio

Predicted Bash Command: sudo snap install android-studio

Enter a natural language command (or 'exit' to stop): i want to update expressvpn

Predicted Bash Command: sudo apt-get upgrade expressvpn

Enter a natural language command (or 'exit' to stop): i want to update android studio

Predicted Bash Command: sudo snap refresh android-studio

Enter a natural language command (or 'exit' to stop): i want to update vim

Predicted Bash Command: sudo snap refresh vim

Enter a natural language command (or 'exit' to stop): how do i delete python

Predicted Bash Command: sudo snap remove python3

Enter a natural language command (or 'exit' to stop): i want to install python

Predicted Bash Command: sudo snap install python3

Enter a natural language command (or 'exit' to stop): i want to install google chrome

Predicted Bash Command: sudo snap install google-chrome

Enter a natural language command (or 'exit' to stop): what is the command to chrome

Predicted Bash Command: sudo snap install chrome

Enter a natural language command (or 'exit' to stop): i want to install sublime text

Predicted Bash Command: sudo snap install sublime-text

Enter a natural language command (or 'exit' to stop): get vs code into my system

Predicted Bash Command: sudo snap install code

Enter a natural language command (or 'exit' to stop): i want to install protonvpn

Predicted Bash Command: sudo apt install protonvpn-cli

Enter a natural language command (or 'exit' to stop): how do i install java

Predicted Bash Command: sudo snap install java

Enter a natural language command (or 'exit' to stop): i need microsoft teams installed on my computer

Predicted Bash Command: sudo snap install teams-for-linux

Enter a natural language command (or 'exit' to stop): i want to use whatsapp for linux can you install it

Predicted Bash Command: sudo snap install whatsapp-for-linux

Enter a natural language command (or 'exit' to stop): i want to use whatsapp can you install it

Predicted Bash Command: sudo snap install whatsapp

**Analysis:**

This model predicts better outcome the previous one.

**Pros:**

* It understands variations in the commands which is Install, Delete, Update
* It predicts “**-**” in android studio and sublime text and predicts only **code** for vs code
* Can ask in any variation for the management tasks
* It recognizes the app names
* It converts to apt-get in most of the cases and apt in some cases but it is a mismatched one
* It predicts python3 for python which is better than previos model and for teams

**Cons:**

* It lags for command with apt and apt-get package manager
* Words needs to be describe clearly for all the words in the RHS like whatsapp for linux, teams for linux

Surely this model is better than the previos model is achieves all the pros of the previous analysis 1 model and also lags at some of the points

***Analysis-3***

**Learning-rate:** 5e-5

**Batch-size:** 8

**Epoch:** 20

**Time-taken:** 5hrs

Points to be rectified:

Notepad plus plus

Whatsapp for linux

Signal desktop

Brave,firefox,opera,chrome – add browser

Apt get

***Analysis-4***

Epoch : 20

Enter a natural language command (or 'exit' to stop): i want to install android studio

Predicted Bash Command: sudo snap install android-studio

Enter a natural language command (or 'exit' to stop): create a python file named hello

Predicted Bash Command: touch hello

Enter a natural language command (or 'exit' to stop): create a python file named hello.py

Predicted Bash Command: touch hello.py

Enter a natural language command (or 'exit' to stop): delete hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): delete file hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): delete a file named hello.py

Predicted Bash Command: touch hello.py

Enter a natural language command (or 'exit' to stop): create a user named sakthi

Predicted Bash Command: sudo useradd -sakthi

Enter a natural language command (or 'exit' to stop): create a user sakthi

Predicted Bash Command: sudo useradd sakthi

Enter a natural language command (or 'exit' to stop): delete the user sakthi

Predicted Bash Command: sudo snap remove sakthi

Enter a natural language command (or 'exit' to stop): show me the ipaddress

Predicted Bash Command: sudo snap install ipad-cli

Enter a natural language command (or 'exit' to stop): who are you

Predicted Bash Command: who

Enter a natural language command (or 'exit' to stop): show me the current running process

Predicted Bash Command: lsblk

Enter a natural language command (or 'exit' to stop): show me the current running apps

Predicted Bash Command: ls -a

Enter a natural language command (or 'exit' to stop): list the files in downloads

Predicted Bash Command: ls -lt

Enter a natural language command (or 'exit' to stop): list the user in the system

Predicted Bash Command: ls -a

Enter a natural language command (or 'exit' to stop): list the users in the system

Predicted Bash Command: ls -L

Enter a natural language command (or 'exit' to stop): list the files in the system

Predicted Bash Command: ls /System

Enter a natural language command (or 'exit' to stop): list the files in the system directory

Predicted Bash Command: ls /System

Enter a natural language command (or 'exit' to stop): what is the ipaddress

Predicted Bash Command: sudo snap install ipad-cli

Enter a natural language command (or 'exit' to stop): what is your name

Predicted Bash Command: ls -a

Enter a natural language command (or 'exit' to stop): i want to install python

Predicted Bash Command: sudo apt install python3

Enter a natural language command (or 'exit' to stop): copy hello.py to documents

Predicted Bash Command: cp hello.py

Enter a natural language command (or 'exit' to stop): copy hello.py from documents to downloads

Predicted Bash Command: cp hello.py

Enter a natural language command (or 'exit' to stop): delete hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): delete directory hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): delete directory namedhello.py

Predicted Bash Command: sudo snap remove namedhello.py

Enter a natural language command (or 'exit' to stop): delete directory named hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): create a group named helo

Predicted Bash Command: sudo groupadd -e helo

Enter a natural language command (or 'exit' to stop): change the file permissions for hello.py as 770

Predicted Bash Command: sudo snap refresh hello.py

Enter a natural language command (or 'exit' to stop): assign the file permissions for hello.py as 770

Predicted Bash Command: sudo snap refresh hello.py

Enter a natural language command (or 'exit' to stop): e

Predicted Bash Command: sudo snap refresh e

Enter a natural language command (or 'exit' to stop): exit

Exiting...

***Analysis-5***

Epoch : 100

Note: **Over over trained**

(virt) D:\smart-assistant\github\smart-assistant>python pred-gpt.py

Enter a natural language command (or 'exit' to stop): i want create a python file named hello.py

Predicted Bash Command: touch hello.py

Enter a natural language command (or 'exit' to stop): delete the file hello.py

Predicted Bash Command: sudo snap remove hello.py

Enter a natural language command (or 'exit' to stop): create a user named ram

Predicted Bash Command: sudo useradd -ram

Enter a natural language command (or 'exit' to stop): create a user name ram

Predicted Bash Command: sudo useradd -m

Enter a natural language command (or 'exit' to stop): add group to my ubuntu system named developer

Predicted Bash Command: sudo groupadd developer

Enter a natural language command (or 'exit' to stop): add user named ram

Predicted Bash Command: sudo useradd -r ram

Enter a natural language command (or 'exit' to stop): delete user named ram

Predicted Bash Command: sudo apt remove ram

Enter a natural language command (or 'exit' to stop): show me the ipaddress

Predicted Bash Command: lsblk

Enter a natural language command (or 'exit' to stop): show me the ip address

Predicted Bash Command: ifconfig

Enter a natural language command (or 'exit' to stop): list the current running process

Predicted Bash Command: ps aux

Enter a natural language command (or 'exit' to stop): what are the process currently running in my system

Predicted Bash Command: ps aux

Enter a natural language command (or 'exit' to stop): list the files in documents folder

Predicted Bash Command: ls /Documents

Enter a natural language command (or 'exit' to stop): copy file from hello.py to /douments/hello.py

Predicted Bash Command: cp hello.py /douments/hello.py

Enter a natural language command (or 'exit' to stop): copy folder from hello to /douments/hello

Predicted Bash Command: cp hello -r /douments/hello

Enter a natural language command (or 'exit' to stop): rename a file named hello.py to world.py

Predicted Bash Command: sudo snap refresh hello.py

Enter a natural language command (or 'exit' to stop): rename a file named from hello.py to world.py

Predicted Bash Command: sudo snap refresh hello.py to world.py

Enter a natural language command (or 'exit' to stop): install python

Predicted Bash Command: sudo apt install python3

Enter a natural language command (or 'exit' to stop): what is storage of my system

Predicted Bash Command: lsblk

Enter a natural language command (or 'exit' to stop): what is battery percentage as of now

Predicted Bash Command: powertop

Enter a natural language command (or 'exit' to stop): create a folder named world

Predicted Bash Command: mkdir world

Enter a natural language command (or 'exit' to stop): delete the directory named world

Predicted Bash Command: sudo snap remove world

Enter a natural language command (or 'exit' to stop): create a folder named world in documents directory

Predicted Bash Command: mkdir /Documents

Enter a natural language command (or 'exit' to stop): create a folder named world inside the documents directory

Predicted Bash Command: ls -R /Documents

Enter a natural language command (or 'exit' to stop): who are you

Predicted Bash Command: who

Enter a natural language command (or 'exit' to stop): top

Predicted Bash Command: top

Enter a natural language command (or 'exit' to stop): who are you

Predicted Bash Command: who

Enter a natural language command (or 'exit' to stop): delete the python file hello

Predicted Bash Command: sudo apt remove hello-py

Enter a natural language command (or 'exit' to stop): run the python file nmaed hello

Predicted Bash Command: sudo apt install nmaed hello

Enter a natural language command (or 'exit' to stop): change the owner of thr file hello.py to mukesh

Predicted Bash Command: sudo snap refresh hello.py

Enter a natural language command (or 'exit' to stop): change the owner of the file hello.py to mukesh

Predicted Bash Command: sudo snap refresh hello.py

Enter a natural language command (or 'exit' to stop): set file permission to hello.py 770

Predicted Bash Command: sudo snap install hello.py 770

Enter a natural language command (or 'exit' to stop): what is t5 model?

Predicted Bash Command: lsblk

Enter a natural language command (or 'exit' to stop): list the user in my system

Predicted Bash Command: cat /etc/passwd

Enter a natural language command (or 'exit' to stop): list the groups in my system

Predicted Bash Command: cat /etc/group

Enter a natural language command (or 'exit' to stop): i want to set password for ram

Predicted Bash Command: sudo snap install ram-jdk

Enter a natural language command (or 'exit' to stop): set password for ram

Predicted Bash Command: sudo apt install default-jdk

Enter a natural language command (or 'exit' to stop): change the password for ram

Predicted Bash Command: sudo passwd | grep -v ram

Enter a natural language command (or 'exit' to stop): modify password of <username>

Predicted Bash Command: sudo passwd username>

Enter a natural language command (or 'exit' to stop): add <username> into group <groupname>

Predicted Bash Command: sudo usermod -aG groupname> username>

Enter a natural language command (or 'exit' to stop): add karthi into group developer

Predicted Bash Command: sudo snap install karthi

Enter a natural language command (or 'exit' to stop): add user karthi into group developer

Predicted Bash Command: sudo useradd -G karthi

Enter a natural language command (or 'exit' to stop):

Predicted Bash Command:

Enter a natural language command (or 'exit' to stop): Predicted Bash Command: sudo usermod -aG groupname> username>

Predicted Bash Command: sudo usermod -aG groupname> sudo

Enter a natural language command (or 'exit' to stop): Predicted Bash Command: sudo usermod -aG groupname> username>

Predicted Bash Command: sudo usermod -aG groupname> sudo

Enter a natural language command (or 'exit' to stop): which application consumes the most memory

Predicted Bash Command: top

Enter a natural language command (or 'exit' to stop): assign read write execute permission to user and others for the hello.py

Predicted Bash Command: chmod 707 hello.py

Enter a natural language command (or 'exit' to stop): assign read execute permission to user and others for the hello.py

Predicted Bash Command: sudo snap install hello.py

Enter a natural language command (or 'exit' to stop): assign execute permission to user and others for the hello.py

Predicted Bash Command: sudo snap install hello.py

Enter a natural language command (or 'exit' to stop): exit

Exiting...

***Analysis-5***

**Epoch:** 30

**Learning rate:** 5e-5

**Batch size:** 8

**Order of dataset:**

1. General tasks
2. Opening apps
3. System information
4. Software management
5. User and group management
6. File management

**User and group management**

* Group add
* User add
* User add to group
* Password set
* Lock user
* Unlock user
* Change name
* Expire
* Give sudo and revoke
* Add to group sec
* Change primary group
* Group mod
* User delete
* Group delete
* User delete from group
* List user
* Sudo info -> user and group
* List group members
* List user groups
* List user in
* User info
* Group info
* Switch user
* Last login
* Logout from session

**Good:**