ASSIGNMENT-1

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Q1) Identify at least 3 Practical robot applications of Fundamental Data Types and Collection Data Types?

ANS:

Data types help the compiler understand the type of data.
-> Using Integer data type instead of float whenever possible helps us save memory and hence low-powered processing devices can be used in the robot.

-> collection data type can help us collect sensor data in a time-series format to compute the average of the values and provide a smoothened output.

-> data types help us compare the received data from the sensor and for error detection purposes.

Q2) Identify the Importance of variables in the field of robotics ?

ANS: robotics deals with the process of Sensing Thinking and Acting.
The raw data received from the sensors is of no use to the robot.
Raw data needs to be processed to get a sensible output from it.
For this purpose we need to store the raw data from the sensors temporarily and we can use variables for the same.
Variables also make it easier for the programmer to make their code understandable and easy to work with.

Q3) List out at least 20 basic Linux commands and identify its purpose in Linux

-> **ls** - lists files in a directory
-> **chmod** - change mode, used to change permission related to a file
-> **history** - Lists out all the commands used till presently
-> **mkdir** - make a new directory
-> **cd** <directory> - Change directory command, allows us to jump to a particular directory
-> **echo** – Prints text to the terminal window
-> **touch** – Creates a file
-> **pwd** – Print working directory
-> **mv** – Move or rename directory

-> **exit** – Exit out of a directory

-> **clear** – Clear your terminal window

-> **cp** – copy files and directories

-> **kill** – terminate stalled processes

-> **rm** – This command is used to remove files in a directory or the directory itself.

->**chown** – This command is used to change the ownership of a file/folder or even multiple files/folders for a specified user/group

->**apt-get** - It is used to install new software packages, remove available software packages, upgrade existing software packages as well as upgrade the entire operating system

->**reboot** – This command may be used to halt, power-off or reboot a system

-> **cat** - cat command allows you to create single or multiple files, view contents of file, concatenate files and redirect output in terminal or files.

->**wc** - The wc (word count) command in Linux operating system is used to find out the number of new lines, word count, byte and characters count in a file specified by the file arguments.

-> **grep** – Find text in a file. The grep command searches through many files at a time to find a piece of text you are looking for.