

Program 10

Develop a LaTeX script to design a simple tree diagram or hierarchical structure in the document with appropriate labels using the Tikz library

```
\documentclass{article}
\usepackage{tikz}
\begin{document}
    \begin{tikzpicture}[
        level 1/.style={sibling distance=4cm},
        level 2/.style={sibling distance=2.5cm},
        every node/.style={draw, circle, minimum size=1cm}
    ]
        \node {Root}
        child {node {Child 1}
            child {node {GC 1}}
            child {node {GC 2}}
        }
        child {node {Child 2}
            child {node {GC 3}}
            child {node {GC 4}}
        };
    \end{tikzpicture}
\end{document}
```

Program 11

Develop a Latex Script to present an algorithm in the document using algorithm/algorithmic/algorithm2e library.

```
\documentclass{article}
\usepackage{algorithm2e}
\begin{document}
\begin{algorithm}
  \caption{An algorithm to find Even or Odd}\label{alg:two}
  \KwData{$n \geq 0$}
  \KwResult{$y = x^n$}
  $y \gets 1$;
  $X \gets x$;
  $N \gets n$;
  \While{$N \neq 0$}
  {
    \If{$N$ is even}
    {
      $X \gets X \times X$;
      $N \gets \frac{N}{2}$;
    }
    {
      \If{$N$ is odd}
      {
        $y \gets y \times X$;
        $N \gets N - 1$;
      }
    }
  }
\end{algorithm}
\end{document}
```

Program 12

Develop a LaTeX script to create a simple report and article by using suitable commands and formats of user choice.

```
\documentclass{report}
\title{My Simple Report}
\author{Your Name}
\date{\today}
\begin{document}
    \maketitle
    \tableofcontents

    \chapter{Introduction}
    This is the introduction of my simple report.

    \section{About Project}
    Here, I'll provide some details of Introduction

    \chapter{Literature Review}
    This chapter describes the literature review used in my study.

    \chapter{Methodology}
    This chapter describes the methodology used in my study.

    \chapter{Results}
    Here are the results of my study.

    \chapter{Conclusion}
    In conclusion, I'll summarize my findings.
\end{document}
```