

PRAKTIKUM STRUKTUR DATA & ALGORITMA : TREE

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In [2]: class pohonSimpul:
    def __init__(obj, data):
        obj.data = data
        obj.children = []
        obj.parent = None

    def get_level(obj):
        level = 0
        p = obj.parent
        while p:
            level += 1
            p = p.parent

        return level

    def print_tree(obj):
        spaces = ' ' * obj.get_level() * 3
        prefix = spaces + "|__" if obj.parent else ""
        print(prefix + obj.data)
        if obj.children:
            for child in obj.children:
                child.print_tree()

    def add_child(obj, child):
        child.parent = obj
        obj.children.append(child)

def build_mobil_tree():
    root = pohonSimpul("JenisMobil")

    konvensional = pohonSimpul("Konvensional")
    konvensional.add_child(pohonSimpul("Avanza"))
    konvensional.add_child(pohonSimpul("Brio"))
    konvensional.add_child(pohonSimpul("Agya"))
    konvensional.add_child(pohonSimpul("Ayla"))

    hybrid = pohonSimpul("Hybrid")
    hybrid.add_child(pohonSimpul("XL 7"))
    hybrid.add_child(pohonSimpul("Inova Venturer"))
    hybrid.add_child(pohonSimpul("Ertiga Hybrid"))
    hybrid.add_child(pohonSimpul("Inova Venturer"))
    hybrid.add_child(pohonSimpul("Ertiga Hybrid"))

    elektrik = pohonSimpul("Elektrik")
    elektrik.add_child(pohonSimpul("Ioniq 5"))
    elektrik.add_child(pohonSimpul("Mini Ev"))
    elektrik.add_child(pohonSimpul("Tesla S"))
    elektrik.add_child(pohonSimpul("Hyundai Kona"))
    elektrik.add_child(pohonSimpul("Outlander PHEV"))
    elektrik.add_child(pohonSimpul("Lexus UX300"))

    root.add_child(konvensional)
    root.add_child(hybrid)
    root.add_child(elektrik)

    root.print_tree()

if __name__ == '__main__':
    build_mobil_tree()

```

```
JenisMobil
|__Konvensional
|   |__Avanza
|   |__Brio
|   |__Agya
|   |__Ayla
|__Hybrid
|   |__XL 7
|   |__Inova Venturer
|   |__Ertiga Hybrid
|   |__Inova Venturer
|   |__Ertiga Hybrid
|__Electrik
|   |__Ioniq 5
|   |__Mini Ev
|   |__Tesla S
|   |__Hyundai Kona
|   |__Outlander PHEV
|   |__Lexus UX300
```

In []: