In [1]:
```
# ABC Motors
```

Part 1

In [32]:
```
class AbcMotorsA():

    def __init__(self, cars_output, var_cost, tot_fmc, sell_pp_car, sga, taxrate):
        self.cars_output = cars_output
        self.var_cost = var_cost
        self.tot_fmc = tot_fmc
        self.sell_pp_car = sell_pp_car
        self.sga = sga
        self.taxrate = taxrate

    def avg_cost(self):
        return (self.var_cost * self.cars_output + self.tot_fmc) / self.cars_output

    def revenue(self, cars_act_sold):
        return self.sell_pp_car * cars_act_sold

    def cogs(self, cars_act_sold):
        return self.avg_cost() * cars_act_sold

    def __str__(self):
        return f"""
            The number of cars output this year is {self.cars_output}
        """
```

In [33]:
```
A = AbcMotorsA(cars_output=100000, var_cost=7500,
               tot_fmc=750000000, sell_pp_car=25000,
               sga=780000000, taxrate=0.3
              )
```

In [34]:
```
print(A)
```

```
            The number of cars output this year is 100000
```

In [35]:
```
A.avg_cost()
```

Out[35]: 15000.0

In [36]:
```
A.revenue(90000)
```

Out[36]: 2250000000

In [37]:
```
A.cogs(90000)
```

Out[37]: 1350000000.0

In [38]:
```
A.sga
```

Out[38]: 780000000

In [40]:
```
A.revenue(90000) - (A.cogs(90000) + A.sga)
```

Out[40]: 120000000.0

In [41]:
```
NOPAT = 120000000.0 * (1-A.taxrate)
```

In [42]:
```
NOPAT
```

Out[42]: 84000000.0

Part 2

In [43]:
```
B = AbcMotorsA(cars_output=125000, var_cost=7500,
               tot_fmc=750000000, sell_pp_car=25000,
               sga=780000000, taxrate=0.3
              )
```

In [44]:
```
B.avg_cost()
```

Out[44]: 13500.0

In [45]:
```
B.revenue(90000)
```

Out[45]: 2250000000

In [46]:
```
B.cogs(90000)
```

Out[46]: 1215000000.0

In [47]:
```
B.revenue(90000) - (B.cogs(90000) + B.sga)
```

Out[47]: 255000000.0

In [48]:
```
255000000.0 * 0.7
```

Out[48]: 178500000.0

In [ ]:
```

```