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**Program: HCS**

**Course: Computational thinking**

**Individual Assignment 1**

1. a) This is because the computer only understands binary or machine language and code is usually written in a high language that is human readable but a computer would not be able to understand

b) - compiler translate code into machine language before execution whereas an interpreter translates and executes the code line by line

- compiler generates an executable file whereas interpreter executes code directly

c) i. print(hoursPlayed[2, 4])

ii. total\_hours = 0

for day in hoursPlayed:

total\_hours += day[0]

print(total\_hours)

1. - Decomposition it the process of taking a big complex problem and breaking it into smaller more simpler manageable problems. This speeds up problem solving as the smaller simpler problems can be solved much faster than the big complex problem.

- pattern recognition is the process of finding recuring themes and patterns within decomposed problems, and this helps identify trends and predict outcomes. it can also help create generic answers for similar problems



def calculate\_commission (quantity, price):

trade\_consideration = price \* quantity

commission = (2/100) \* trade\_consideration

VAT = (14.5/100) \* commission

return {

"Commission": commission,

"VAT": VAT}

is attempt < 3?

Enter Password

is password valid?

True

false

Welcome Message

True

Advice User on Profile Being Locked

Lock Profile

false

Start function

increase attempt counter by 1