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FYMCA-B 03
BATCH 1
ASSIGNEMT 6

CODE:

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# Define a class for bird data
class Bird:
  def __init__(self, name, characteristics):
    self.name = name
    self.characteristics = characteristics

# Sample bird data (replace with a larger dataset)
birds = [
  Bird("Indian Peafowl", ["large", "colorful", "long tail feathers"]),
  Bird("Great Hornbill", ["large", "hornbill beak", "black and white plumage"]),
  Bird("Asian Koel", ["black", "long tail", "calls like a crow"]),
  Bird("Himalayan Griffon", ["large vulture", "brown plumage", "bald head"]),
  Bird("Jungle Babbler", ["brown", "small", "groups in noisy flocks")
]

# Function to ask the user yes/no questions
def yes_no_question(question):
  while True:
    answer = input(question + " (y/n): ").lower()
    if answer in ("y", "yes"):
      return True
    elif answer in ("n", "no"):
      return False
    else:
      print("Invalid input. Please answer yes (y) or no (n).")

# Function to identify birds based on characteristics
def identify_bird():
  print("Think of a bird species found in India.")

  # Ask questions based on characteristics
  is_large = yes_no_question("Is the bird large (bigger than a crow)?")
  has_long_tail = yes_no_question("Does the bird have a long tail?")
  has_colorful_plumage = yes_no_question("Does the bird have colorful plumage?")
  has_hornbill_beak = yes_no_question("Does the bird have a large, horn-like beak?")
  is_black = yes_no_question("Is the bird mostly black?")
  calls_like_crow = yes_no_question("Does the bird have a call similar to a crow?")
  is_brown = yes_no_question("Is the bird mostly brown?")
  has_bald_head = yes_no_question("Does the bird have a bald head?")
  travels_in_groups = yes_no_question("Does the bird travel in noisy groups?")

  # Match characteristics with birds
  possible_birds = []
  for bird in birds:
    matches = 0
    if is_large and "large" in bird.characteristics:
      matches += 1
    if has_long_tail and "long tail" in bird.characteristics:
      matches += 1
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    if has_colorful_plumage and "colorful" in bird.characteristics:
      matches += 1
    if has_hornbill_beak and "hornbill beak" in bird.characteristics:
      matches += 1
    if is_black and "black" in bird.characteristics:
      matches += 1
    if calls_like_crow and "calls like a crow" in bird.characteristics:
      matches += 1
    if is_brown and "brown" in bird.characteristics:
      matches += 1
    if has_bald_head and "bald head" in bird.characteristics:
      matches += 1
    if travels_in_groups and "groups in noisy flocks" in bird.characteristics:
      matches += 1
    if matches == len(bird.characteristics):  # All characteristics match
      possible_birds.append(bird)

  # Print possible identifications
  if len(possible_birds) == 1:
    print("The bird you're thinking of is likely a", possible_birds[0].name)
  elif len(possible_birds) > 1:
    print("Based on your answers, the bird could be one of the following:")
    for bird in possible_birds:
      print("-", bird.name)
  else:
    print("Sorry, I couldn't identify any birds based on your description. Try refining your answers or
providing more details.")

if __name__ == "__main__":
  identify_bird()
```

OUTPUT:

```
Think of a bird species found in India.
Is the bird large (bigger than a crow)? (y/n): y
Does the bird have a long tail? (y/n): n
Does the bird have colorful plumage? (y/n): n
Does the bird have a large, horn-like beak? (y/n): y
Is the bird mostly black? (y/n): n
Does the bird have a call similar to a crow? (y/n): n
Is the bird mostly brown? (y/n): y
Does the bird have a bald head? (y/n): y
Does the bird travel in noisy groups? (y/n): n

Based on your answers, the bird could be one of the following:
- Great Hornbill
- Himalayan Griffon
```