

Hidden Place Guessing Game



Prompt: This is a places attributes dataset. I have a hidden place in mind. You are allowed to ask me binary questions about the hidden place's attributes, for you to figure out the hidden place. After receiving an answer, at each step, you must print what your current belief distribution is, about the possible hidden place.

```
places = {
  'Mount Fuji': {
    'city': False,
    'capital_city': False,
    'coastal': False,
    'island': True,
    'mountainous': True,
    'desert': False,
    'tropical': False,
    'cold': True,
    'natural_site': True,
    'cultural_site': True,
    'unesco': True,
    'tourist_hotspot': True,
    'population_large': False
  },
  'Great Barrier Reef': {
    'city': False,
    'capital_city': False,
    'coastal': True,
    'island': False,
    'mountainous': False,
    'desert': False,
    'tropical': True,
    'cold': False,
    'natural_site': True,
    'cultural_site': False,
    'unesco': True,
    'tourist_hotspot': True,
    'population_large': False
  },
  'Mumbai': {
    'city': True,
    'capital_city': False,
    'coastal': True,
    'island': True,
    'mountainous': False,
    'desert': False,
    'tropical': True,
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'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': True
},
'Rome': {
'city': True,
'capital_city': True,
'coastal': False,
'island': False,
'mountainous': False,
'desert': False,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': True
},
'Istanbul': {
'city': True,
'capital_city': False,
'coastal': True,
'island': False,
'mountainous': False,
'desert': False,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': True
},
'Amazon Rainforest': {
'city': False,
'capital_city': False,
'coastal': False,
'island': False,
'mountainous': False,
'desert': False,
'tropical': True,
'cold': False,
'natural_site': True,
'cultural_site': False,
'unesco': False,
'tourist_hotspot': False,
'population_large': False

```

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},
'Cusco': {
  'city': True,
  'capital_city': False,
  'coastal': False,
  'island': False,
  'mountainous': True,
  'desert': False,
  'tropical': False,
  'cold': False,
  'natural_site': False,
  'cultural_site': True,
  'unesco': True,
  'tourist_hotspot': True,
  'population_large': False
},
'The Great Wall of China': {
  'city': False,
  'capital_city': False,
  'coastal': False,
  'island': False,
  'mountainous': True,
  'desert': True,
  'tropical': False,
  'cold': True,
  'natural_site': False,
  'cultural_site': True,
  'unesco': True,
  'tourist_hotspot': True,
  'population_large': False
},
'Mount Kilimanjaro': {
  'city': False,
  'capital_city': False,
  'coastal': False,
  'island': False,
  'mountainous': True,
  'desert': False,
  'tropical': True,
  'cold': True,
  'natural_site': True,
  'cultural_site': False,
  'unesco': True,
  'tourist_hotspot': True,
  'population_large': False
},
'Lima': {
  'city': True,
  'capital_city': True,
  'coastal': True,
  'island': False,

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'mountainous': False,
'desert': True,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': True
},
'Victoria Falls': {
'city': False,
'capital_city': False,
'coastal': False,
'island': False,
'mountainous': False,
'desert': False,
'tropical': True,
'cold': True,
'natural_site': True,
'cultural_site': False,
'unesco': True,
'tourist_hotspot': True,
'population_large': False
},
'Cinque Terre': {
'city': False,
'capital_city': False,
'coastal': True,
'island': False,
'mountainous': True,
'desert': False,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': False
},
'Grand Canyon': {
'city': False,
'capital_city': False,
'coastal': False,
'island': False,
'mountainous': False,
'desert': True,
'tropical': False,
'cold': False,
'natural_site': True,
'cultural_site': False,

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    'unesco': True,
    'tourist_hotspot': True,
    'population_large': False
  },
  'Tokyo': {
    'city': True,
    'capital_city': True,
    'coastal': True,
    'island': False,
    'mountainous': False,
    'desert': False,
    'tropical': False,
    'cold': False,
    'natural_site': False,
    'cultural_site': True,
    'unesco': False,
    'tourist_hotspot': True,
    'population_large': True
  },
  'Buenos Aires': {
    'city': True,
    'capital_city': True,
    'coastal': True,
    'island': False,
    'mountainous': False,
    'desert': False,
    'tropical': False,
    'cold': False,
    'natural_site': False,
    'cultural_site': False,
    'unesco': False,
    'tourist_hotspot': True,
    'population_large': True
  },
  'Bogota': {
    'city': True,
    'capital_city': True,
    'coastal': False,
    'island': False,
    'mountainous': True,
    'desert': False,
    'tropical': False,
    'cold': False,
    'natural_site': False,
    'cultural_site': False,
    'unesco': False,
    'tourist_hotspot': False,
    'population_large': True
  },
  'Marrakech': {
    'city': True,

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'capital_city': False,
'coastal': False,
'island': False,
'mountainous': True,
'desert': True,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': True,
'tourist_hotspot': True,
'population_large': False
},
'Bora Bora': {
'city': False,
'capital_city': False,
'coastal': True,
'island': True,
'mountainous': True,
'desert': False,
'tropical': True,
'cold': False,
'natural_site': True,
'cultural_site': False,
'unesco': False,
'tourist_hotspot': True,
'population_large': False
},
'Los Angeles': {
'city': True,
'capital_city': False,
'coastal': True,
'island': False,
'mountainous': True,
'desert': False,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': False,
'unesco': False,
'tourist_hotspot': True,
'population_large': True
},
'Lisbon': {
'city': True,
'capital_city': True,
'coastal': True,
'island': False,
'mountainous': False,
'desert': False,
'tropical': False,

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'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': False,
'tourist_hotspot': False,
'population_large': True
},
'Salar de Uyuni': {
'city': False,
'capital_city': False,
'coastal': False,
'island': False,
'mountainous': False,
'desert': True,
'tropical': False,
'cold': True,
'natural_site': True,
'cultural_site': False,
'unesco': False,
'tourist_hotspot': True,
'population_large': False
},
'Hong Kong': {
'city': True,
'capital_city': False,
'coastal': True,
'island': True,
'mountainous': True,
'desert': False,
'tropical': True,
'cold': False,
'natural_site': False,
'cultural_site': False,
'unesco': False,
'tourist_hotspot': True,
'population_large': True
},
'Baghdad': {
'city': True,
'capital_city': True,
'coastal': False,
'island': False,
'mountainous': False,
'desert': True,
'tropical': False,
'cold': False,
'natural_site': False,
'cultural_site': True,
'unesco': False,
'tourist_hotspot': False,
'population_large': True

```

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},
'Namib Desert': {
  'city': False,
  'capital_city': False,
  'coastal': True,
  'island': False,
  'mountainous': False,
  'desert': True,
  'tropical': False,
  'cold': False,
  'natural_site': True,
  'cultural_site': False,
  'unesco': False,
  'tourist_hotspot': False,
  'population_large': False
},
'Plitvice Lakes': {
  'city': False,
  'capital_city': False,
  'coastal': False,
  'island': False,
  'mountainous': True,
  'desert': False,
  'tropical': False,
  'cold': True,
  'natural_site': True,
  'cultural_site': False,
  'unesco': False,
  'tourist_hotspot': False,
  'population_large': False
}
}

```

Great. I'll begin by asking a binary question to narrow down the possibilities.

Question 1: Is the hidden place a **city**?

Please answer "Yes" or "No".



No.

Thanks. Based on your answer ("No" to **city**), I will eliminate all places where the ``city`` attribute is ``True``.

Updated belief distribution (after filtering out cities):

Remaining possible places (with equal probability for now):

1. Mount Fuji

2. Great Barrier Reef
3. Amazon Rainforest
4. The Great Wall of China
5. Mount Kilimanjaro
6. Victoria Falls
7. Cinque Terre
8. Grand Canyon
9. Bora Bora
10. Salar de Uyuni
11. Namib Desert
12. Plitvice Lakes

Next question:

Is the hidden place **mountainous**?



Yes.

Thanks. Since the answer is **Yes** to **mountainous**, I'll now filter the current list to only those places where ``mountainous`` is ``True``.

Updated belief distribution:

Remaining possible places:

1. Mount Fuji
2. The Great Wall of China
3. Mount Kilimanjaro
4. Cinque Terre
5. Bora Bora
6. Plitvice Lakes

These 6 are now equally likely based on current information.

Next question:

Is the hidden place located on an **island**?



No.

Thanks. Since the answer is **No** to **island**, I'll remove all mountainous places that are islands.

Updated belief distribution:

Remaining possible places:

1. Mount Fuji
2. The Great Wall of China
3. Mount Kilimanjaro
4. Cinque Terre
5. Plitvice Lakes

Next question:

Is the hidden place a **natural site**?



Yes.

Thanks. You answered **Yes** to **natural site**, so I'll now filter to places where ``natural_site`` is ``True``.

Updated belief distribution:

Remaining possible places:

1. Mount Fuji
2. Mount Kilimanjaro
3. Plitvice Lakes

Next question:

Is the hidden place **cold**?



Yes.

Great. You answered **Yes** to **cold**, so I'll keep only the places that are both natural sites and cold.

Updated belief distribution:

Remaining possible places:

1. Mount Fuji
2. Plitvice Lakes

Next question:

Is the hidden place a **UNESCO** World Heritage Site?



Yes.

Thanks. You answered **Yes** to **UNESCO**, so I'll now filter to places where `unesco` is `True`.

Updated belief distribution:

Remaining possible place:

1. Mount Fuji

It appears I have identified your hidden place.

My guess is: Mount Fuji.

Is that correct?