Mau-mau Game Description:

Mau-mau is a card game where players take it in turns to play cards from their hand onto a face-up pile of cards. There are rules about which cards can be played, and some cards have certain additional effects on the game.

The game is played with a standard pack of cards, from which the Jokers, Twos, Threes, Fours, and Fives have been removed (note that this is different from the standard version of the game). For the purposes of your project, you should implement a version that has four players: one human player and three computer players.

Each player has a hand of cards, and the aim is for them to get rid of all the cards from their hand.

The pack is shuffled, and each player is dealt seven cards. If they have four or more power cards (i.e. Seven, Eight, Jack and Ace) they have to return these to the deck, which is reshuffled and they draw another hand of seven cards; this process is repeated until they have fewer than four power cards. The remaining cards are shuffled to form a face-down draw pile, and the top card is turned face-up and placed next to the draw pile to form the start of a playing pile.

Players take it in turn to play a card. This must match the top card of the playing pile, either in suit or in value (see below for an additional rule about Jacks). If they cannot do this, they draw the two top cards from the draw pile, take one of them of their choice, and place the other card face-down on the bottom of the draw pile. If they can play the card that they have just drawn, they may do so, otherwise they take the card into their hand. The game then proceeds to the next player (even if the current player can play other cards).

The Sevens, Eights, Jacks and Aces of all suits are power cards, and have different properties compared to normal cards:

Sevens. If the player plays a seven, then the next player has to take the top two cards from the draw pile into their hand before playing their turn. The player must be able to play the Seven according to the usual rules (i.e. the topmost card must either be a Seven or of the same suit as the player's Seven).
Eights. If the player players an Eight, then the next player misses their turn. The player must be able to play the Eight according to the usual rules (i.e. the topmost card must either be an Eight or of the same suit as the player's Eight).
Jacks. The player can play a Jack regardless of whether or not it matches the topmost card. The player who plays it then chooses a card suit. The next player then plays as if the Jack was of the chosen suit, and this suit remains active until another card is played onto the playing pile.
Aces. If the player plays an Ace, then they can play one other card on top of the Ace, as long as it matches in suit or value with the Ace. This can only happen once, i.e. if the second card is also an Ace, they cannot play a further card. The player must be able to play the Ace according to the usual rules (i.e. the topmost card must either be an Ace or of the same suit as the player's Ace).
If the player plays the last card from their hand, they win immediately.

Whenever the draw pile is empty, all the cards in the playing pile apart from the topmost one are shuffled, and placed face-down as the new draw pile.

There is no need to implement anything about saying "Mau" or "Mau-mau".

Task

The overall task in this coursework is to work individually to create a Python program to allow a human player to play this game, playing against three computer opponents. You must use the Pygame framework to implement this. Details of this are at https://www.pygame.org, and some useful background can be found in the module lecture material on Moodle. There is

You should include the following in your solution:

A simulation of the decks/hands of cards and the basic gameplay as described above.
A visual interface (using Pygame), so that the user can see pictures of their cards, face-down cards to represent the opponents hands, a face-down card to represent a draw pile, and a face-up card to represent the . The computer players' cards are hidden, but you should include a button Show All Cards which shows the computer players' cards (for testing and demonstration).
Computer players for the game. A computer player plays a random valid card from their hand if they can.
A button called Play for Me which makes the computer player take your turn for you.
When a player (human or computer) wins, the program should display a congratulation message.
Importantly, you must incorporate an aspect of Nottingham into the visual design of your cards. That could be the University or the city. Games that do not include this aspect will fail the assessment. For example, your card might include images from the campus or city,