



4.1.1 Random Numbers

1) Write a program that creates a simple Guess the Number game.

The program should:

- randomly choose an integer between 1 and 100, inclusive
- repeatedly ask the user to enter a guess
- output "Higher" if the guess is lower than the random number
- output "Lower" if the guess is higher than the random number
- output "You got it!" when the user guesses the correct number
- continue asking for guesses until the correct number is entered

[6 marks]

```
• import random
  number = random.randint(1, 100)
  guess = -1
  while guess != number:
    guess = int(input("Guess the number: "))
    if guess < number:
      print("Higher")
    else:
      print("Lower")
  print("You got it!")
```

Marking points:

Imports the random module. [1]

Generates a random integer between 1 and 100, inclusive, using an appropriate method such as random.randint(1, 100). [1]

Repeatedly obtains a guess from the user. [1]

Uses a loop that continues until the correct number is guessed. [1]

Outputs "Higher"/"Lower" when the guess is higher/lower than the random number. [1]

Outputs "You got it!" when the guess is correct. [1]





2) Write a Python program to generate a sentence of random words:

The program should:

- use the two lists of words provided
- randomly select one word from each list
- combine the two selected words into a sentence
- output the resulting sentence

Use the lists:

```
animals = ["cat", "dog", "rabbit", "penguin"]  
actions = ["runs", "jumps", "sleeps", "dances"]
```

The sentence should be in the format:

The <animal> <action>.

[3 marks]

- **import random**
animals = ["cat", "dog", "rabbit", "penguin"]
actions = ["runs", "jumps", "sleeps", "dances"]
animal = random.choice(animals)
action = random.choice(actions)
print("The " + animal + " " + action + ".")

Marking points:

Uses random.choice() to randomly select words from each list. [1]

Combines the selected words into the required sentence format [1]

Outputs the completed sentence. [1]

