Sample Questions for PSAT

1) **Sort a list without using the sort function.**

```
#Python program to print a list
# without using the sort() function
# without an extra variable

l1=[76, 23, 45, 12, 54, 9]
print("Original List:", l1)

# sorting list using nested loops
for i in range(0, len(l1)):
        for j in range(i+1, len(l1)):
        if l1[i] >= l1[j]:
        l1[i], l1[j] = l1[j],l1[i]

# sorted list
print("Sorted List", l1)
```

2) **Guess the number within 5 attempts from a range of 50 numbers**

```
import random
def number_guessing():
        number = random.randint(1, 100)
        attempts = 7
        print("Guess the number (between 1 and 100):")

        while attempts > 0:
        try:
        guess = int(input("Enter your guess: "))
        if guess == number:
                print("Congratulations! You guessed the number.")
                break
        elif guess < number:
                print("Too low!")
        else:
                print("Too high!")
        attempts -= 1
        print(f"{attempts} attempts remaining.")
        except ValueError:
        print("Please enter a valid number.")

        if attempts == 0:
        print(f"Game over! The number was: {number}")

number_guessing()
```

3) **Trivia Quiz Game using Dictionary (Key as Questions and Value as Answer)**

```
def trivia_quiz():
    questions = {
    "What is the capital of France?": "paris",
    "What is 2 + 2?": "4",
    "Which programming language is named after a snake?": "python",
    "What is the largest ocean on Earth?": "pacific",
    "Who wrote 'Romeo and Juliet'?": "shakespeare"
    }

    score = 0

    for question, answer in questions.items():
    print(question)
    user_answer = input("Your answer: ").strip().lower()
    if user_answer == answer:
    print("Correct!")
    score += 1
    else:
    print(f"Wrong! The correct answer was: {answer}")

    print(f"Quiz over! Your score: {score}/{len(questions)}")

trivia_quiz()
```

4) **Scramble a word and then let the use guess the word**

```
import random

def word_jumble():
    words = ["python", "developer", "hangman", "algorithm", "cybersecurity"]
    word = random.choice(words)
    jumbled = ''.join(random.sample(word, len(word)))

    print(f"Jumbled word: {jumbled}")
    attempts = 3

    while attempts > 0:
    guess = input("Guess the word: ").strip().lower()
    if guess == word:
    print("Correct! You win!")
    break
    else:
    attempts -= 1
    print(f"Wrong! {attempts} attempts remaining.")
```

```
        if attempts == 0:
        print(f"Game over! The word was: {word}")

word_jumble()
```

5) **Design and implement a Python program for the classic word guess game. The program should randomly select a word from a predefined list, display underscores representing the unguessed letters, and allow the user to guess one letter at a time. With each guess, the program should update the displayed word if the letter is correct or decrement the number of remaining attempts if it is incorrect. The program should note as the player makes wrong guesses, and it should notify the player if they win by guessing the word correctly or lose by running out of attempts. Ensure the program provides feedback for invalid inputs, tracks guessed letters, and ends the game when the word is fully guessed or the Hangman is complete.**

Topics to learn (extra):

- String Join
- “In” in List
- Random
- Strip
- Lower