Paktolus Assignment: Milind Gupta

Attempt any one:

Question 5:
Implement the function deepEquals which takes two arguments of any type, and returns true if they're identical. For primitives it's straightforward, for objects (arrays are also object), it requires a bit more.
The types we want to handle are:
all primitives: String, Number, Boolean, Symbol, undefined
Objects (including Arrays!)

Ans: Here is the implementation of deepEquals given:

```
function deepEquals(a, b) {
  if (typeof a !== typeof b) {
    return false;
  }

  if (typeof a !== 'object') {
    return a === b;
  }

  if (a === null || b === null) {
    return a === b;
  }

  if (Array.isArray(a) !== Array.isArray(b)) {
    return false;
  }

  const keysA = Object.keys(a);
  const keysB = Object.keys(b);

  if (keysA.length !== keysB.length) {
    return false;
  }
```

```
  for (const key of keysA) {
    if (!keysB.includes(key) || !deepEquals(a[key], b[key])) {
      return false;
    }
  }

  return true;
}

//user input
const input1 = JSON.parse(prompt("Enter the first value:"));
const input2 = JSON.parse(prompt("Enter the second value:"));

const areEqual = deepEquals(input1, input2);

console.log(`The inputs are ${areEqual ? 'equal' : 'not equal'}.`);
```

This implementation uses the JSON.parse method to parse the user input as JSON, so that objects and arrays can be inputted as strings. It then calls the deepEquals function with the parsed values and logs the result to the console.

Input:

const a = {
 name: 'Alice',
 age: 25,
 hobbies: ['reading', 'swimming']
};
const b = {
 name: 'Alice',
 age: 25,
 hobbies: ['reading', 'swimming']
};

deepEquals(a, b);

Output:
true

Input:
```
const a = [1, 2, { name: 'Alice' }];
const b = [1, 2, { name: 'Alice' }];

deepEquals(a, b);
```

Output:
```
true
```