UNIVERSIDAD POLITÉCNICA DE YUCATÁN

Programming 2-A
Quizz

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Part 1: Paradigm Match.

A banking app with customers and accounts (Object-oriented)
A math calculation engine. (functional)
A step-by-step login process. (procedural)
An AI expert system. (logical)

Part 2: “Write a Mini Program”

```
#include <stdio.h>

int main()
{
 printf("This is a simple calculator!\n");
 printf("Available operations:\n- addition(1)\n- substraction(2)\n- multiplication(3)\n");
 printf("Enter your desired operation (type 1-3): ");
 int operation;
 scanf("%d", &operation);

 float num1, num2, result;

 if (operation != 1 & operation != 2 & operation != 3)
 {
  printf("Sorry, invalid operation.\n");
  return 1;
 }

 printf("Enter the two numbers\n");
 printf("Enter number 1: ");
 scanf("%f", &num1);
 printf("Enter number 2: ");
 scanf("%f", &num2);

 if (operation == 1)
 {
  result = num1 + num2;
  printf("Result: %.2lf\n", result);
 }
 else if (operation == 2)
 {
  result = num1 - num2;
  printf("Result: %.2lf\n", result);
 }
 else
 {
  result = num1 * num2;
  printf("Result: %.2lf\n", result);
 }
```

```
  return 0;
}
```

Screenshot

```
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve$ ./program
This is a simple calculator!
Available operations:
- addition(1)
- substraction(2)
- multiplication(3)
Enter your desired operation (type 1-3): 1
Enter the two numbers
Enter number 1: 123
Enter number 2: 13.231
Result: 136.23
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve$ ./program
This is a simple calculator!
Available operations:
- addition(1)
- substraction(2)
- multiplication(3)
Enter your desired operation (type 1-3): 2
Enter the two numbers
Enter number 1: 41
Enter number 2: 12312
Result: -12271.00
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve$ ./program
This is a simple calculator!
Available operations:
- addition(1)
- substraction(2)
- multiplication(3)
Enter your desired operation (type 1-3): 3
Enter the two numbers
Enter number 1: -1231
Enter number 2: 593
Result: -729983.00
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve$ ./program
This is a simple calculator!
Available operations:
- addition(1)
- substraction(2)
- multiplication(3)
Enter your desired operation (type 1-3): no me gustan las mates
Sorry, invalid oepration.
```

Part 3: Save your History

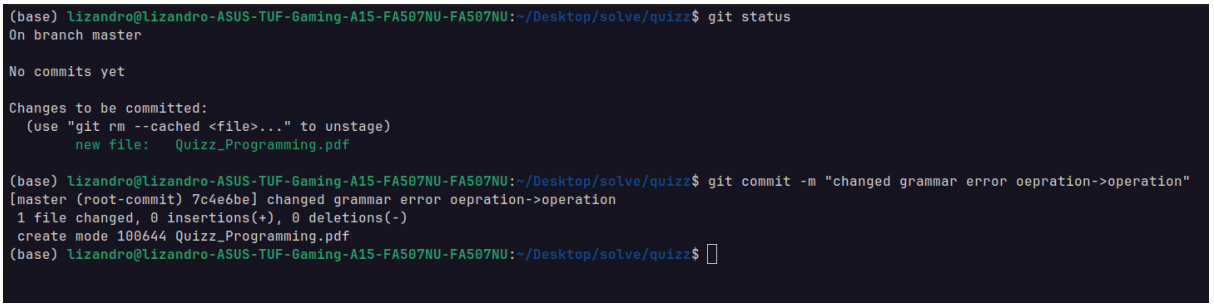
Screenshots:

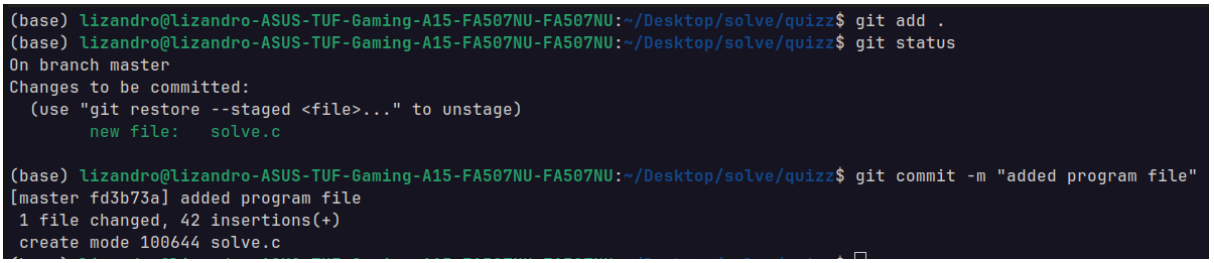
```
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve/quizz$ git init
Initialized empty Git repository in /home/lizandro/Desktop/solve/quizz/.git/
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve/quizz$ ll
total 320
drwxrwxr-x 3 lizandro lizandro   4096 jun 18 11:40 ./
drwxrwxr-x 4 lizandro lizandro   4096 jun 18 11:40 ../
drwxrwxr-x 7 lizandro lizandro   4096 jun 18 11:40 .git/
-rw-rw-r-- 1 lizandro lizandro 313315 jun 18 11:39 Quizz_Programming.pdf
```

```
(base) lizandro@lizandro-ASUS-TUF-Gaming-A15-FA507NU-FA507NU:~/Desktop/solve/quizz$ git status
On branch master

No commits yet

Changes to be committed:
  (use "git rm --cached <file>..." to unstage)
        new file:   Quizz_Programming.pdf
```





Using git avoids conflicts that may appear if the project was being worked on without a version control system. It allows for different users to colab and work together in harmony.

Part 4: Q&A

1. **Which paradigm did you choose and why?**
   We chose the procedural paradigm because it is the one that best aligns with the calculator functionality. You have to follow a series of steps in order to output the result, so that's why.
2. **Identify one operator and one data type you used.**
   - "+" Is one of the operators employed for the calculator.
   - "float" was a data type used to store the user's numbers.
3. **What is one benefit of using Git in development?**
   Git is a specialized tool for version control, this nature allows different coders on a team to work on the same project in an organized manner. This avoids conflicts that may appear if the project was being worked on without a version control system.
4. **Draw or describe the basic structure of your program.**
   Begin
   → Output available operations.
   → Input the user's desired operation (*operation*).
   → Input the user's two numbers (*num1, num2*).
   → Perform the operation with the numbers and store it in *result*.
   → Output the result
   End
5. **How would your program look different in another paradigm?**
   If we had chosen to do the program with the Functional-Paradigm we could have made different functions that took care of very specific tasks, unlike we just did where we stored everything in the main() function. We could have written a function for the calculator that asks for the input, calls the necessary operation functions and returns

the result in the end. And for the operations, we could have made a different function for addition, substraction and multiplication respectively, each handling that specific operation.