Members:   
Tlotliso Khosi 202100017  
Bahlakoana Tau 202100233  
Tieho Pius Molise 202100023  
Kelello Mapesela 201902543  
Bafokeng Khoabane Masitha 202101678  
Khotso Mojakhomo 202101672  
Tlhokomelo Mohobane 202100185

Machobane farming system

Assignment

**MACHOBANE FARMING SYSTEM**

**INTRODUCTION:**

Machobane farming system is a system of growing crops where a lot of crops are grown on the same piece of land and the crops to be used are selected based on the benefits one crop poses to the other. Take for instance Beans and Maize, beans are leguminous crops which fix nitrogen into the soil and maize requires high content of nitrogen so the two constitute a perfect pair for the system. With this farming system, the aim is to produce as much yield as possible thus maximum utilization of the available piece of plot.

1. **FUNCTIONALITY:**

Seasonal information: It provides information about crops suitable for planting in Winter (April to May) and summer (August to October). Specifies the planting and harvesting times for planted crops.

1. **SOIL FERTILITY AND MOISTURE ASSESSMENT:**

The code calculates the overall soil fertility based on the amount of fertilizers added to the plot. The code takes average fertility and calculates the updated average fertility, ba taking the current month moisture and the previous average moisture, and adding the two and taking their average to give the updated moisture. The same goes with fertility subroutine.

1. **PLOT VISUALIZATION:**

It displays a visual representation of the plot based on the selected pair of crops for planting. Different specific characters are used to represent different crops within a plot.

1. **INTERCROPPING AND YIELD ESTIMATION:**

The user selects the crop pairs to intercrop based on what season it is. The estimated yield of the selected crops taking into consideration the moisture content and soil fertility. The amount obtained on yield is in crop unit(i.e 1 unit of maize is 1 plant of maize).

**LOOP CONTROL:**

It iterates through a period of 12 months implementing different stages of the production cycle being the planting time, to introduce relay cropping and to harvest et

**SUMMARY:**

The code simulates Machobane Farming System by iterating through the 12 months of the year, whereby at each month of the year soil fertility readings and moisture readings are taken by issuing a prompt to the user that commands him/her to enter the average readings for that particular month. Since cultivating of the crops is done at specific times of the year we have included prompts at those months of cultivation that will capture the type of crops and the size of the land the user prefers. During the relay cropping month which is the august month where we now plant summer crops in the presence of winter crops, the code will issue out a prompt that will capture the crops that the user wants to plant.

During the harvesting month for summer crops, our code now uses the captured data which is the type of crops planted, the size of the plot, moisture and fertility to calculate the yield based on the impact of the moisture and fertility of the plot used. The same convention is used to calculate yield for the winter crops that are harvested in January.