ALGORITHM AND PROGRAMMING

REPEAT AND TAKING A DECISION

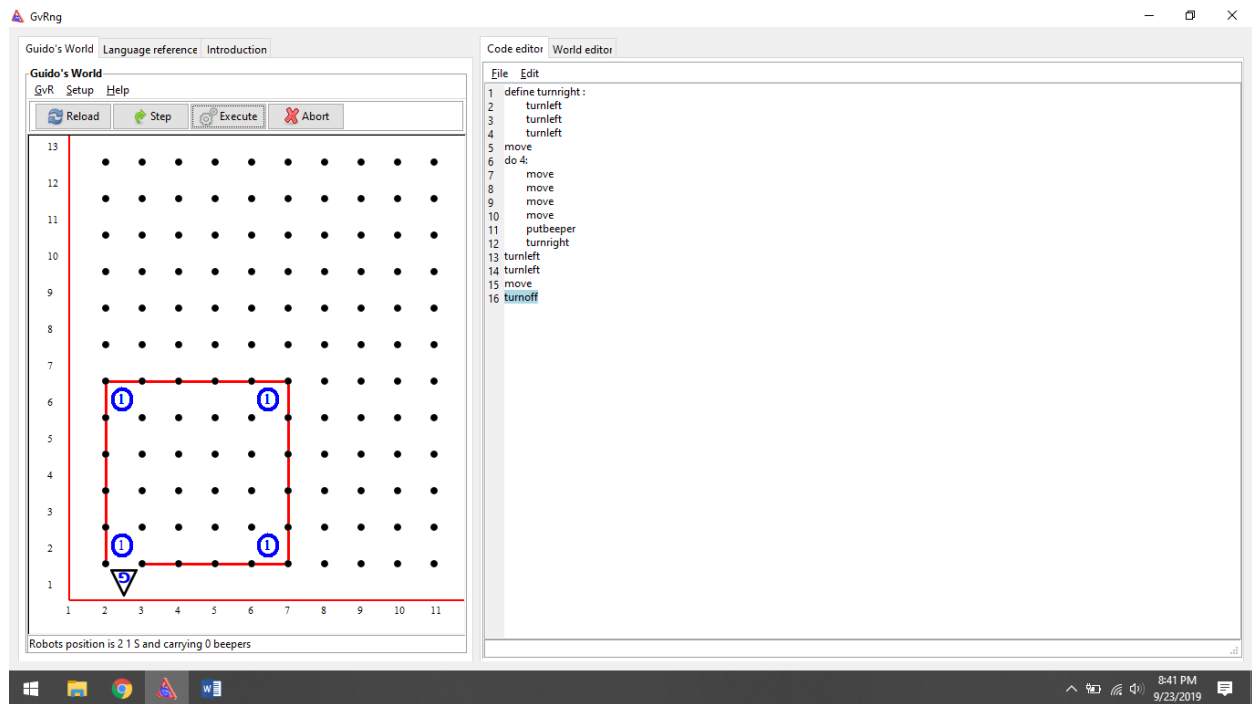

By :

FADHLIH HASAN SETIAWAN

L200194209

INFORMATION TECHNOLOGY

FACULTY OF COMMUNICATION AND INFORMATICS

UNIVERSITY OF MUHAMMADIYAH SURAKARTA

2019/2020 SCHOOL YEAR

Activity 1

Here is the program I made (not more than 16 lines)

Picture 1.1. Guido Van Robot

Code:

```
define turnright :
        turnleft
        turnleft
        turnleft
move
do 4:
        move
        move
        move
        move
        putbeeper
        turnright
turnleft
turnleft
move
turnoff
```
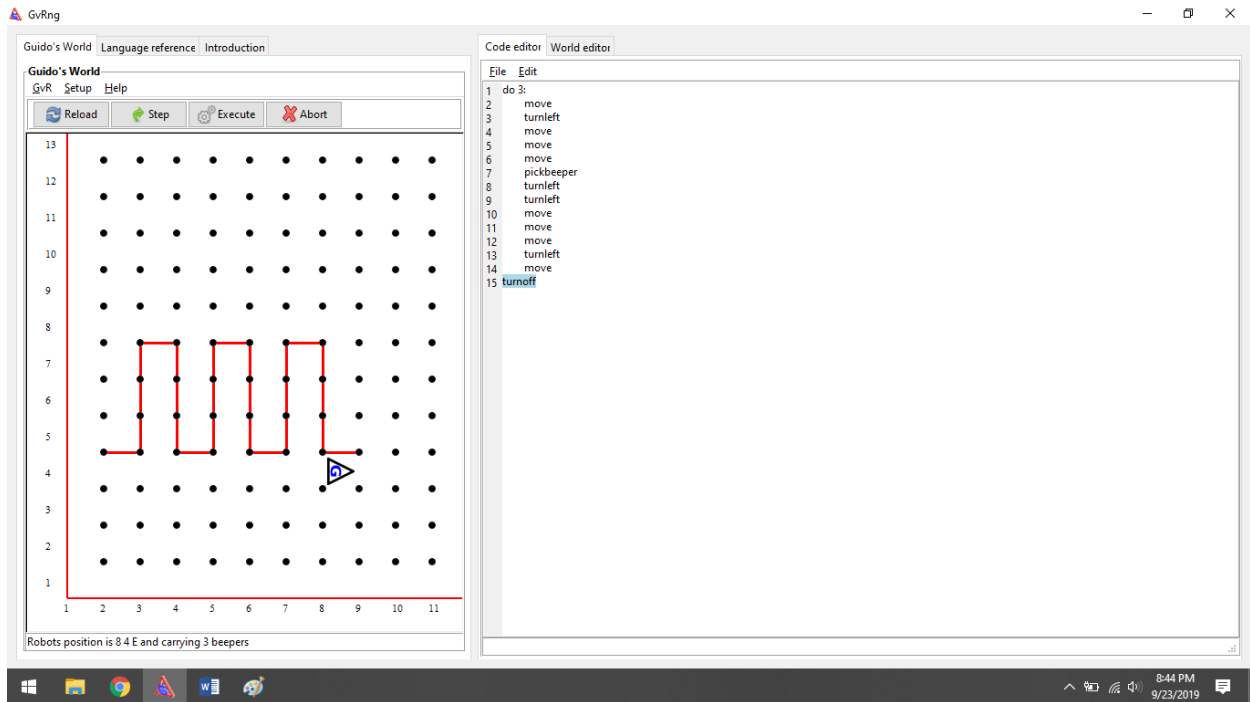
Activity 2

Here is the program I made (not more than 18 lines)

Picture 2.1. Guido Van Robot

Code:

```
do 3:
        move
        turnleft
        move
        move
        move
        pickbeeper
        turnleft
        turnleft
        move
        move
        move
        turnleft
        move
turnoff
```
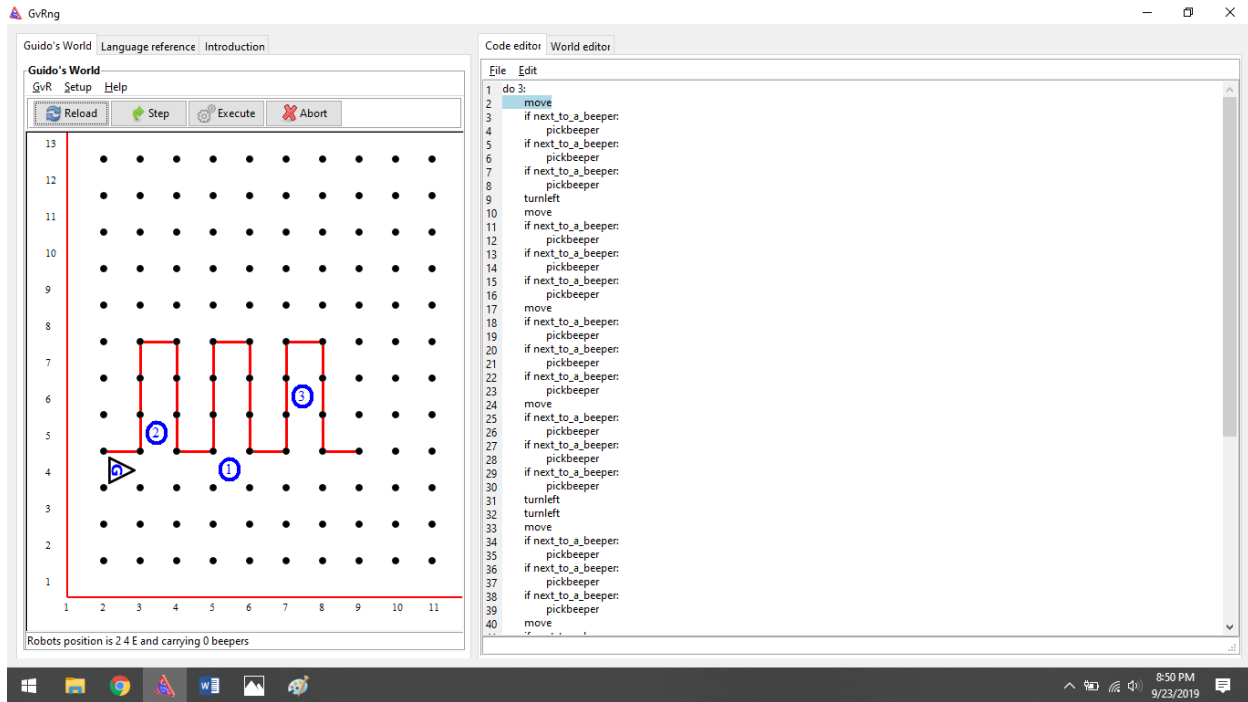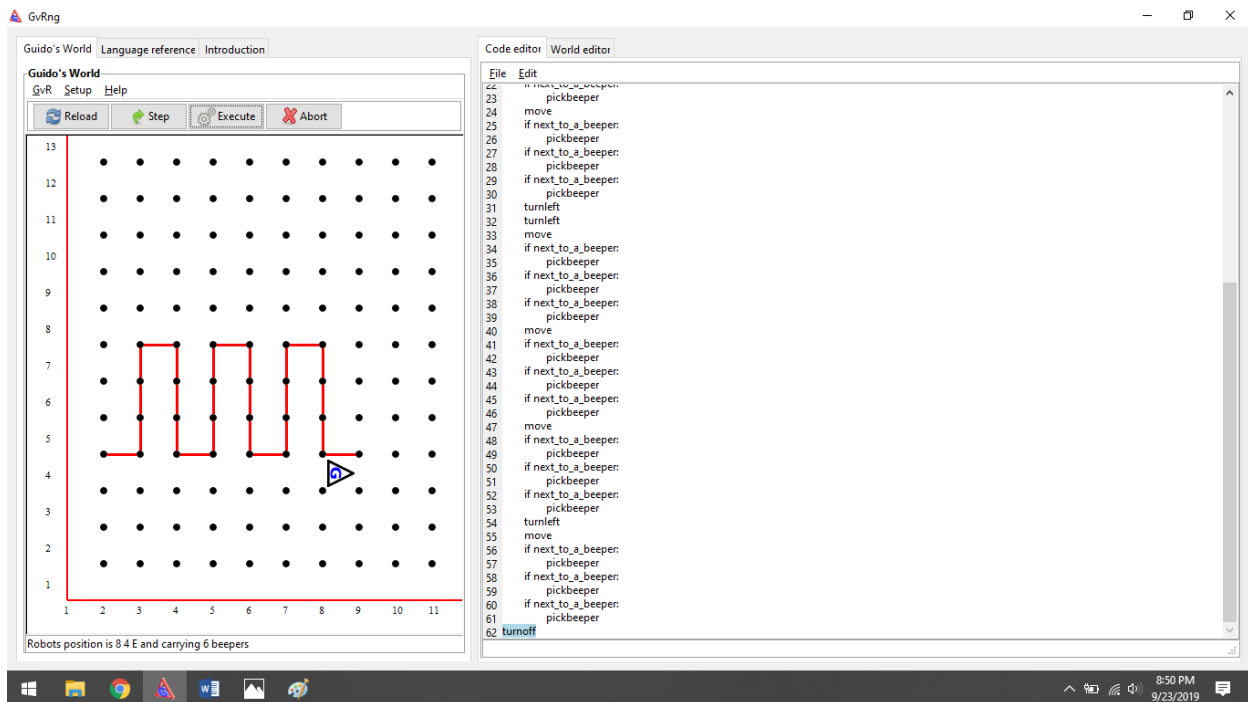
Activity 3

The following is a modified program:

Picture 3.1. Guido Van Robot

Picture 3.2. Guido Van Robot

Code :

```
do 3:
        move

        if next_to_a_beeper:

                pickbeeper

        if next_to_a_beeper:

                pickbeeper

        if next_to_a_beeper:

                pickbeeper

    turnleft

    move

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    move

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:
```

```
        pickbeeper

move

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:

        pickbeeper

turnleft

turnleft

move

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:

        pickbeeper

move

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:

        pickbeeper

if next_to_a_beeper:
```

```
            pickbeeper

    move

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    turnleft

    move

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

    if next_to_a_beeper:

            pickbeeper

turnoff
```
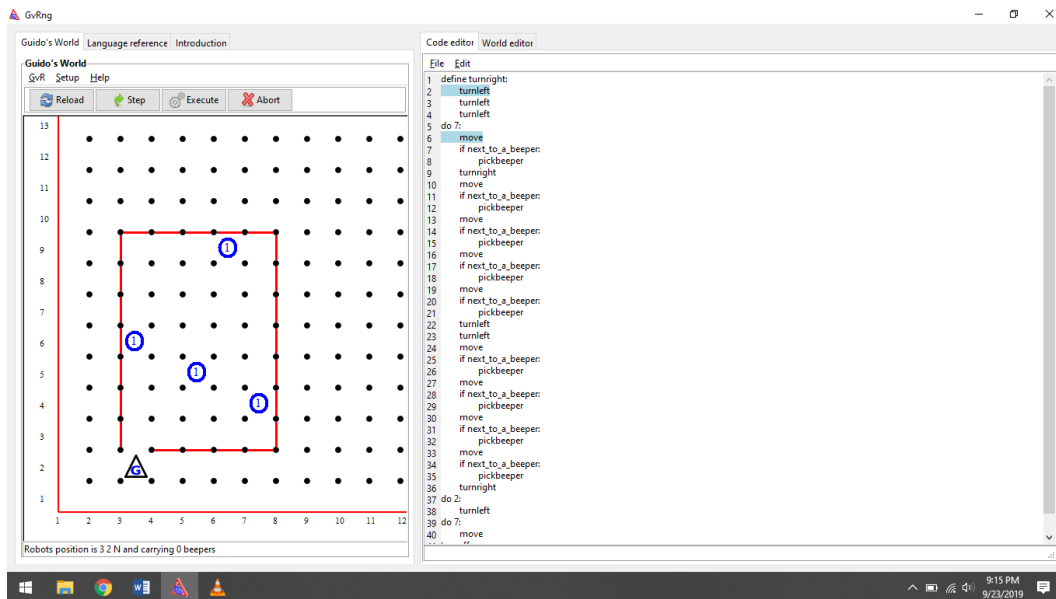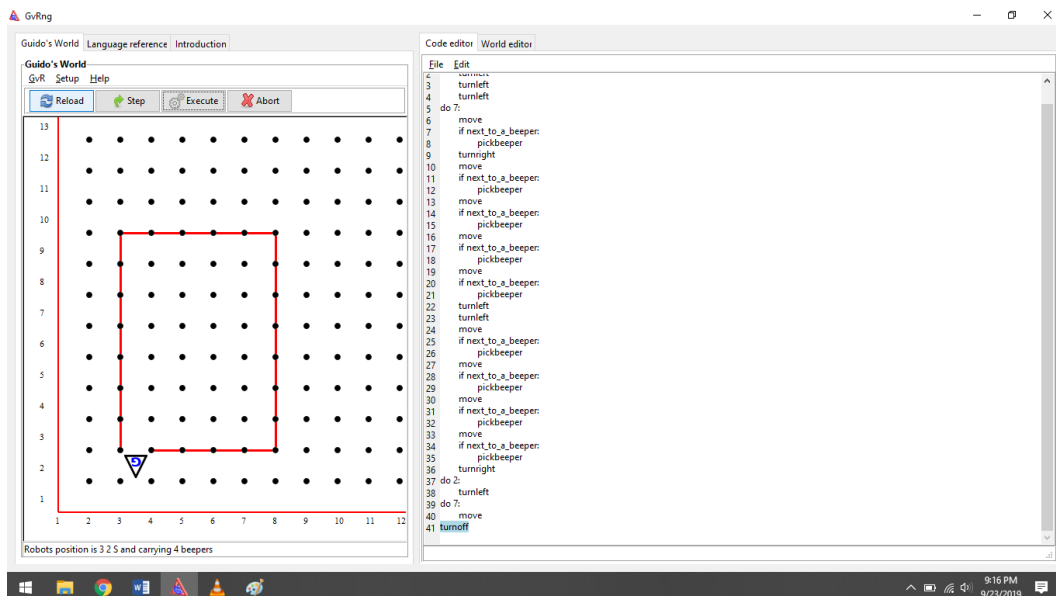
Activity 4

The following is a screenshot of the GvRng window, before the program starts (after clicking the reload button)

The following is a screenshot of the GvRng window, After the program starts (after clicking the reload button)

The program listing is as follows:

define turnright:

      turnleft

      turnleft

      turnleft

do 7:

      move

      if next_to_a_beeper:

            pickbeeper

      turnright

      move

      if next_to_a_beeper:

            pickbeeper

      move

      if next_to_a_beeper:

            pickbeeper

      move

      if next_to_a_beeper:

            pickbeeper

      move

      if next_to_a_beeper:

            pickbeeper

```
        turnleft

        turnleft

        move

        if next_to_a_beeper:

                pickbeeper

        move

        if next_to_a_beeper:

                pickbeeper

        move

        if next_to_a_beeper:

                pickbeeper

        move

        if next_to_a_beeper:

                pickbeeper

        turnright

do 2:

        turnleft

do 7:

        move

turnoff
```