

FUZE BASIC

Worksheet: 3a "Variables"

Firstly, you need to be in **Immediate mode**. If you are in the editor then press **F2** or click the X in the top right. The editor has icons along the top but immediate has none. It should look something like this:

```
**** FUZE BASIC V3.5 ****
16.2GB RAM SYSTEM  11.9GB FREE
READY.
Immediate mode
```

Variables are important tools for programming. A **variable** is something we use to **store** a piece of information so that the computer can find it easily. A **variable** can change, and we can **control** what happens to them.

Below, we are going to use simple **variables** to help us organise our class.

From now on all variables will be displayed in Blue.

```
Girls = 15  ←
Boys = 15  ←
Class = Girls + Boys ←
Print Class ←
```

In **immediate mode** (see top), type in the commands displayed to the left. After each command press the **ENTER** key.

The words 'Girls', 'Boys' and 'Class' are called **Variables**. We could use anything but it's best to use appropriate words so your program is easy to understand.

Now we're going to write a simple program that uses **variables**.

We like apples, but if you prefer another fruit, you should use those instead!

```
CLS
APPLES = 10

LOOP
CLS
INK = GREEN
PAPER = BLACK

PRINT "I have "; APPLES; " Apples. "
WAIT (.5)
PRINT " "
WAIT (.5)
PRINT "If we eat one... then..."
APPLES = APPLES - 1
WAIT (1)
REPEAT UNTIL APPLES = 0
CLS
PRINT "I have no Apples! "
END
```

Press **F2** to open the editor and enter the program on the left.

RUN with F3.

You should recognise the commands we are using from the last sheet. Nothing new here!

Actually, there is one thing..

REPEAT UNTIL tells the computer to **stop** repeating when the condition is met. Here, we are telling it to stop when we have 0 Apples.

See if you can make the program eat Apples at once, and add your own words to the program to make it yours!

The next order of business is to get the computer to understand something that **we** type in.

Our goal is to write a program that we can interact with, and get the computer to remember what we say.

We are going to use something called a **string**. Not a piece of string, computer strings use this **symbol**: **\$**

We need to learn another important command too: **input**

When we tell the computer we are going to **input** an answer (our name, for example), we also tell it to **save** that answer as a **string**. Confused? Don't be. Have a look below:

```
PRINT "Hello, my name is FUZE. "
INPUT "What is your name? ", name$
WAIT (1)
PRINT "Hello, "; name$ ;"! Nice to meet you! "
END
```

The way this is written might look a little strange. The punctuation can be tricky!

Be sure to **double** and **triple** check the code!

Got all that? Brilliant! Now, we can make our Apples program a little more interesting.

Remember: it doesn't have to be fruit!

```
CLS
APPLES = 10

LOOP
CLS
INK = GREEN
PAPER = BLACK

PRINT "I have "; APPLES; " Apples. "
WAIT (.5)
PRINT " "
WAIT (.5)
INPUT "Would you like one? (yes/no) ", answer$
IF answer$ = "yes" THEN APPLES = APPLES - 1
IF answer$ = "no" THEN PRINT "Oh okay. Maybe next time "
WAIT (1)
REPEAT UNTIL APPLES = 0
CLS
PRINT "You ate them all! "
END
```

We have left the **variables** in **blue** and made the new **input** and **string** commands **green** to help us understand.

This program is pretty much the same as our last Apples program, except this time the computer asks us if we would like one.

Once you have finished this program try to change the quantities and words to make the program your own!

CHALLENGE: Can you write a program that learns about somebody? Try to write a program that finds out a person's favourite things.