# Calculator Memory Description

The HP-12C calculator has different memory areas dedicated to different functions. The memory areas are:

| Memory Area | Description |
| --- | --- |
| **Stack Registers** | X, Y, Z, T and Last-X registers to track calculations. The Last-X is a special register to keep the previous content of stack-X after an operation or function (RPN mode only). |
| **Financial Registers** | n, i, PV, PMT and FV registers for financial calculations. |
| **Storage Registers** | 20 General purpose registers numbered from 0 to 19. |
| **Cash Flow Memory** | 100 registers to store the cash flow values and repetitions. The first 20 registers are the Storage Registers. |
| **Program Memory** | Stores keystroke sequences in a program for a total of up to 999 program steps or complete commands. |

## Stack Registers X, Y, Z ,T and Last-X

During calculations the automatic Stack retains and returns intermediate results. The number that appears in the display is always the number in the Stack-X Register. The **Last-X** is a special register that contains different values. When a numeric function or operation is executed, a copy of the value that was in the X register is stored in the Last X register. Pressing [g] [LSTX] retrieves the Last X register to the Stack X register.

## Financial Registers:

The calculator has five special registers to perform financial calculations. These registers are: number of compounding periods ( **n** ), interest rate per compounding period ( **i** ), present value (**PV**), periodic payment value (**PMT**) and future value (**FV**). For more detail, please see the **Compound Interest** topic.

## Storage Registers:
The calculator has 20 general purpose memory registers for storing (**STO)** or recalling (**RCL**) numbers involving the displayed stack-X register.

## Cash Flows Register:
To store cash flow amounts 'CFj', and repetitions 'Nj', the calculator uses the 20 general purpose registers plus 80 additional registers and 100 special registers to store the number of repetitions (see the **Cash Flows** topic).

## Program Memory:
Up to 999 program steps can be recorded independently from the other memory registers (see the **Programs** topic).

## Storage Register Operations:

**[STO]** "0" to "9"        : Stores the displayed number in register "0" to "9".
**[RCL]** "0" to "9"        : Recalls register "0" to "9" to the X-stack register.
**[STO] [.]** "0" to "9"    : Stores the displayed number in register "10" to "19".
**[RCL] [.]** "0" to "9"    : Recalls register "10" to "19" to the X-stack register.
**[STO] [+]** "0" to "9"    : Adds the displayed number to register "0" to "9".
**[RCL] [+]** "0" to "9"    : Adds register "0" to "9" to the X-stack register.
**[STO] [-]** "0" to "9"    : Subtracts the displayed number from register "0" to "9".
**[RCL] [-]** "0" to "9"    : Subtracts register "0" to "9" from the X-stack register.
**[STO] [x]** "0" to "9"    : Multiplies register "0" to "9" by the displayed number.
**[RCL] [x]** "0" to "9"    : Multiplies the displayed number by register "0" to "9".
**[STO] [÷]** "0" to "9"    : Divides register "0" to "9" by the displayed number.
**[RCL] [÷]** "0" to "9"    : Divides the displayed number by register "0" to "9".
**[STO] [$y^x$]** "0" to "9" : Raises register "0" to "9" by the displayed number.
**[RCL] [$y^x$]** "0" to "9" : Raises the displayed number by register "0" to "9".

# Financial Registers Operations:

Touching **[n]**, **[i]**, **[PV]**, **[PMT]** and **[FV]** keys stores or calculates the corresponding value depending of the previous key pressed:

| Previous Key | [n] , [ i ] , [PV] , [PMT] or [FV]  pressed |
|:---:|:---|
| **[STO]** | Stores the stack-X in pressed variable register. |
| **[RCL]** | Recall the pressed variable register to the stack-X. |
| **[n], [ i ], [PV], [PMT]  or [FV]** | Calculates the pressed variable and display it. |
| **Any Other** | Stores the stack-X in pressed variable register. |