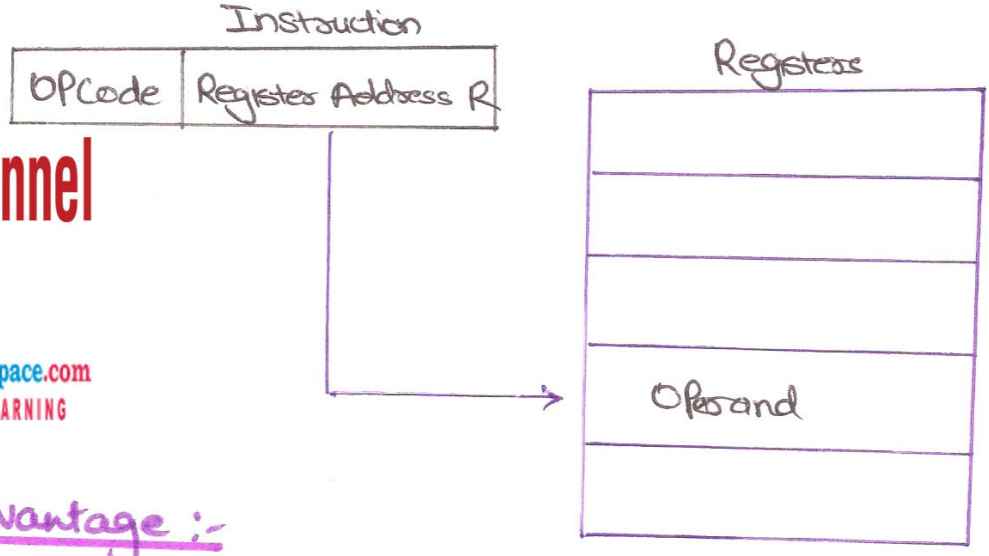
Addressing Modes:- Register Addressing

When operands are taken from register(s), implicitly or explicitly, it is called Register Addressing

If operands are from memory locations, they are called memory operands. In this mode, a Register Address is specified in the instruction. That Register Contains the operand.

It is Conceptually Similar to 'Direct Addressing Mode' except that the register ~~name~~ may be assumed implicitly, for example, the Accumulator register in old machine



Disadvantage :-

→ As Register obtains operands only from memory so it is much faster than memory address.

→ Example : if an operand is moved into a register and processed only once and then returned to memory, then no Saving

Occurs.

→ However if an operand is used repeatedly after bringing into register then we have saved few memory References.

→ The size of register address is smaller than the memory address. It reduces the instruction size.

for example, for a machine having 32 general purpose Registers only 5 bits are needed to address a register.

In this mode the effective address is calculated as:-

EA = R
D = (EA)