

Which of the following addressing modes are suitable for program relocation at run time ?

- (i) Absolute addressing
- (ii) Based addressing
- (iii) Relative addressing
- (iv) Indirect addressing

- (i) and (iv)
- (i) and (ii)
- (ii) and (iii)
- (i), (ii) and (iv)

Instruction	Operation	Instruction Size(in words)
MOV R1,5000;	R1 $\leftarrow$ Memory[5000]	2
MOV R2, (R1);	R2 $\leftarrow$ Memory[(R1)]	1
ADD R2, R3;	R2 $\leftarrow$ R2 + R3	1
MOV 6000, R2;	Memory [6000] $\leftarrow$ R2	2
HALT	Machine halts	1

Consider that the memory is byte addressable with size 32 bits, and the program has been loaded starting from memory location 1000 (decimal). If an interrupt occurs while the CPU has been halted after executing the HALT instruction, the return address (in decimal) saved in the stack will be

- 1007
- 1020
- 1024
- 1028

In the absolute addressing mode

- the operand is inside the instruction
- the address of the operand is inside the instruction
- the register containing address of the operand is specified inside the instruction
- the location of the operand is implicit