**Internal Control Variables**

The OpenMP specification defines the following internal control variables whose values affect the operation of parallel regions.

1. **nthreads-var**—Stores the number of threads requested for future parallel regions.
2. **dyn-var**—Controls whether dynamic adjustment of the number of threads used for future parallel regions is enabled.
3. **nest-var**—Controls whether nested parallelism is enabled for future parallel regions.

The OpenMP specification defines the following internal control variables whose values affect the operation of loops.

1. **run-sched-var**—Stores scheduling information used for loop regions using the runtime schedule clause.
2. **def-sched-var**—Stores implementation-defined default scheduling information for loop regions.

The OpenMP specification provides the following environmental variables you can use to modify internal control variables.

1. **OMP\_SCHEDULE**—Sets the run-sched-var internal control variable for the runtime schedule type and chunk size.
2. **OMP\_NUM\_THREADS**—Sets the nthreads-var internal control variable for the number of threads to use for parallel regions.
3. **OMP\_DYNAMIC**—Sets the dyn-var internal control variable for the dynamic adjustment of threads to use for parallel regions.
4. **OMP\_NESTED**—Sets the nest-var internal control variable to enable or disable nested parallelism.
5. **OMP\_CVI\_PROC\_MSGS\_MASTER**—Specifies whether the master thread processes user interface operations within a parallel region. The default is FALSE.

**Array Sections in Directive (Give explanation for normal directive and add array operation to normal OpenMP program)**

void sum\_int(const int input[], int num, int \*sum)

{

int sum\_even = 0, sum\_odd = 0;

#pragma omp parallel for

for (int i = 0; i < num; i++) {

if (i % 2 == 0)

sum\_even += input[i];

else

sum\_odd += input[i];

}

sum[0] = sum\_even;

sum[1] = sum\_odd;

}