```
/*example*/

int main()

{
   proc processor_array[10];
   mem mem1;
   jb job_1;
   clust cluster1;
   for(i=0;i<10;i++)

   {

   mem1 = Memory(memory_type='primary', mem_size = 512 );

   processor_array[i] = Processor(isa = 'AMD',clock_speed : 40, l1_memory = mem1);

   }

   job_1 = Job(job_id=1, flops_required = 20, deadline = 200, mem_required = 64, affinity
=[0.3,1.5,2,4]);

   cluster1 = Cluster(processor_array, "ring", 50, 40, name = "cluster1");
}
```

/*lexical analysis of the above example*/

<int,INT> <main,IDENTIFIER> <(,LEFT_PARENTEHSIS> <),RIGHT_PARENTHESIS>

<{,LEFT_CURLY>
<proc,PROC> <processor_array,IDENTIFIER> <[,LEFT_BRACKET> <10,CONSTANT>
<],RIGHT_BRACKET> <;,SEMI_COLON>
<mem,MEM> <mem1,IDENTIFIER> <;,SEMI_COLON>
<jb,JB> <job_1,IDENTIFIER> <;,SEMI_COLON>
<clust,CLUST> <cluster1,IDENTIFIER> <;,SEMI_COLON>
<for,FOR> <(,LEFT_PARENTEHSIS> <i,IDENTIFIER> <=,ASGN_OP> <0,CONSTANT>
<;,SEMI_COLON> <i,IDENTIFIER> <<,LESS_THAN> <10,CONSTANT> <;,SEMI_COLON>
<i,IDENTIFIER> <++,INC_OP> <),RIGHT_PARENTHESIS>

<{,LEFT_CURLY>

<mem1,IDENTIFIER> <=,ASGN_OP> <Memory,MEMORY> <(,LEFT_PARENTEHSIS>
<memory_type,MEMORY_TYPE> <=,ASGN_OP> <'primary',MEM_TYPE> <,,COMMA>
<mem_size,MEMORY_SIZE> <=,ASGN_OP> <512,CONSTANT>
<),RIGHT_PARENTHESIS> <;,SEMI_COLON>

<processor_array,IDENTIFIER> <[,LEFT_BRACKET> <i,IDENTIFIER>
<],RIGHT_BRACKET> <=,ASGN_OP> <Processor,PROCESSOR>
<(,LEFT_PARENTEHSIS> <isa,ISA> <=,ASGN_OP> <'AMD',PROC_TYPE> <,,COMMA>
<clock_speed,CLOCK_SPEED> <:,ASGN_OP> <40,CONSTANT> <,,COMMA>
<l1_memory,MEM1> <=,ASGN_OP> <mem1,IDENTIFIER> <),RIGHT_PARENTHESIS>
<;,SEMI_COLON>

<},RIGHT_CURLY>

<job_1,IDENTIFIER> <=,ASGN_OP> <Job,JOB> <(,LEFT_PARENTEHSIS>
<job_id,JOB_ID> <=,ASGN_OP> <1,CONSTANT> <,,COMMA>
<flops_required,FLOPS_REQUIRED> <=,ASGN_OP> <20,CONSTANT> <,,COMMA>
<deadline,DEADLINE> <=,ASGN_OP> <200,CONSTANT> <,,COMMA>
<mem_required,MEM_REQUIRED> <=,ASGN_OP> <64,CONSTANT> <,,COMMA>
<affinity,AFFINITY> <=,ASGN_OP> <[,LEFT_BRACKET> <0.3,CONSTANT> <,,COMMA>
<1.5,CONSTANT> <,,COMMA> <2,CONSTANT> <,,COMMA> <4,CONSTANT>
<],RIGHT_BRACKET> <),RIGHT_PARENTHESIS> <;,SEMI_COLON>

<cluster1,IDENTIFIER> <=,ASGN_OP> <Cluster,CLUSTER> <(,LEFT_PARENTEHSIS>
<processor_array,IDENTIFIER> <,,COMMA> <"ring",STRING_LITERAL> <,,COMMA>
<50,CONSTANT> <,,COMMA> <40,CONSTANT> <,,COMMA> <name,NAME>
<=,ASGN_OP> <"cluster1",STRING_LITERAL> <),RIGHT_PARENTHESIS>
<;,SEMI_COLON>
<},RIGHT_CURLY>