1. What are the **FIVE STEPS** that describe the execution of a `for` loop?

(a)

(b)

(c)

(d)

(e)
2. For each of these kinds of statements, mark CAN if it can appear in the body of a for loop, and mark CANNOT if it cannot appear in the body of a for loop. EXPLAIN.

(a) A named constant declaration

(b) A variable declaration

(c) A printf statement

(d) A scanf statement

(e) An assignment statement

(f) A exit statement

(g) An if block

(h) A while loop

(i) A for loop
3. Convert the following while loop into a for loop.

```c
count = initial_value;
while (count <= final_value) {
    printf("count = %d\n", count);
    count += stride;
} /* while (count <= final_value) */
```

4. Convert the following for loop into a while loop.

```c
for(count = 1; count <= n; count++) {
    n_factorial *= count;
} /* for count */
```
5. What is the **OUTPUT** of each of these programs? If you aren’t confident of an answer, type in, compile and run the program to test it.

(a) 
```
#include <stdio.h>
int main ()
{ /* main */
   int count;
   int sum;

   sum = 0;
   count = 1;
   while (count <= 10) {
      sum = sum + count;
      count = count + 1;
   } /* while (count <= 10) */
   printf("sum = %d\n", sum);
   return 0;
} /* main */
```

(b) 
```
#include <stdio.h>
int main ()
{ /* main */
   int count;
   int sum;

   sum = 0;
   count = 1;
   while (count <= 10) {
      sum = sum + count;
      count = count + 2;
   } /* while (count <= 10) */
   printf("sum = %d\n", sum);
   return 0;
} /* main */
```

(c) 
```
#include <stdio.h>
int main ()
{ /* main */
   int count;
   int product;

   product = 1;
   count = 1;
   while (count <= 15) {
      product = product * count;
      count = count + 5;
   } /* while (count <= 15) */
   printf("product = %d\n", product);
   return 0;
} /* main */
```
(d) #include <stdio.h>
int main ()
{ /* main */
  int count;
  int product;

  product = 1;
  count = 1;
  while (count <= 16) {
    product = product * count;
    count = count + 5;
  } /* while (count <= 16) */
  printf("product = %d\n", product);
  return 0;
} /* main */

(e) #include <stdio.h>
int main ()
{ /* main */
  const int lower_bound = 1;
  const int upper_bound = 17;
  const int stride = 5;
  int count;
  int product;

  product = 1;
  count = lower_bound;
  while (count <= upper_bound) {
    product = product * count;
    count = count + stride;
  } /* while (count <= upper_bound) */
  printf("product = %d\n", product);
  return 0;
} /* main */

If you use ANY resources other than Dr. Neeman, the TAs (Badre, Borah, Sadri, Saravanan), the course textbook or the materials posted on the course webpage, you MUST reference them on the quiz. THIS INCLUDES CLASSMATES, FRIENDS, PROFESSORS, ONLINE RESOURCES, ETC.