Student Name:.. NID:...........................

COP 3223 Sec 1: Fall'08   C Programming   Test 1 Practice   (50 points)

1. (10 points)
   Write down the printed output of this program. Mark your blank chars too.

```
                                                 WRITE YOUR OUTPUT BELOW HERE

                                            ------------------------------------
   #include <stdio.h>                       |
                                 Out Line 1  |
   int main(void)                            |
   {     float f;                            |
         int a,i;                 Out Line 2 |
         a = 0;                              |
         a = a + 1;                          |
         printf ("A= %d\n", a);   Out Line 3 |
         a += 2;                             |
         a--;                                |
         a++;                     Out Line 4 |
         printf ("B= %d\n", a);              |
         i=2;                                |
         f=5.0;                   Out Line 5 |
         printf ("F= %f\n", f/i);            |
         a=5;                                |
         printf ("C= %d\n", a/i); Out Line 6 |
                                             |
         return 0;                           |
   }
```

2. (10 points)
   Write down the printed output of this program. Mark your blank chars too.

```
                                                 WRITE YOUR OUTPUT BELOW HERE

                                            ------------------------------------
   #include <stdio.h>                       |
                                 Out Line 1  |
   int main(void)                            |
   {     float f;                            |
         int a,i;                 Out Line 2 |
         a = 0;                              |
         a = a + 1;                          |
         printf ("A= %4d\n", a);  Out Line 3 |
         a += 2;                             |
         a = a % 2                           |
         a++;                     Out Line 4 |
         printf ("B= %5d\n", a);             |
         i=2;                                |
         f=5.0;                   Out Line 5 |
         printf ("F= %6.2f\n", f/i);         |
                                             |
         return 0;                           |
   }
```

3. (15 points) Trace the following program:

```
ENTER YOUR TRACE BELOW

                                    Prog    |       |       |       | print or
                                    Line #  |   a   |   b   |   c   | other action
                                    --------|-------|-------|-------|--------
1. #include <stdio.h>                       |       |       |       |
2.                                          |       |       |       |
3.                                  --------|-------|-------|-------|--------
4. int main(void)                           |       |       |       |
5. {                                        |       |       |       |
6.        int a=1 , b=4, c=3;       --------|-------|-------|-------|--------
7.        a += 2;                           |       |       |       |
8.        if (a <= b)                       |       |       |       |
9.          {                               |       |       |       |
10.         if (b <= c)             --------|-------|-------|-------|--------
11.            printf ("c= %d\n", c);       |       |       |       |
12.          else                           |       |       |       |
13.            printf ("c= %d\n",a+c); -----|-------|-------|-------|--------
14.          }                              |       |       |       |
15.       else                              |       |       |       |
16.         printf ("b= %d\n", b);  --------|-------|-------|-------|--------
17.       b -= 1;                           |       |       |       |
18.       if (a <= b)                       |       |       |       |
19.          printf ("a= %d\n", a);  -------|-------|-------|-------|--------
20.       else                              |       |       |       |
21.          printf ("b= %d\n", b);         |       |       |       |
22.                                 --------|-------|-------|-------|--------
23.                                         |       |       |       |
24.       return 0;                         |       |       |       |
25. }                               --------|-------|-------|-------|--------
                                            |       |       |       |
                                            |       |       |       |
                                    --------|-------|-------|-------|--------
```

4. (25 points) Trace the following program:

ASSUME keyboard input IS: 2   ENTER YOUR TRACE BELOW

```
Prog   |       |       |       | print or
Line # |   a   |   i   |   n   | other action
-------|-------|-------|-------|--------
```

```
1. #include <stdio.h>
2.
3.
4. int main(void)
5. {
6.        int a, i, n;
7.        a = 1; i = 1;
8.        scanf("%d",&n);
9.        while (i <= n)
10.         {
11.          a = a * a + i * i ;
12.           i++;
13.           if (i <=n)
14.             printf ("b= %d\n", a);
15.         }
16.        for (i=5; i>3; i--)
17.          {
18.             printf ("c= %d\n",a+i);
19.          }
20.        return 0;
21. }
```

```
Prog   |       |       |       | print or
Line # |   a   |   i   |   n   | other action
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```