1) Write a function that averages two numbers a and b and returns the average. (25 points) (Give function definition)

```c
float average(int a, int b)
{
    float avg;
    avg = (float)(a+b)/2;
    return avg;
}
```

Answer

```c
float average (int a, int b)
{
    float avg;
    avg = (float)(a+b)/2;
    return avg;
}
```

2) Define a function that returns the most significant digit of a two digit number. (25 points)

```c
void msd(int number, int *most_significant_digit)
{
    *most_significant_digit = number/10;
    return;
}
```

Examples
a) Number = 49
   Most significant digit = 4

Answer

```c
void msd(int number, int *most_significant_digit)
{
    *most_significant_digit = number/10;
    return;
}
```

3) Define a function that prints a floating point number with a width of 6 and a precision of 2. (25 points)
void print_number(float number)

Answer
void print_number(float number)
{
    printf("\n %6.2f", number);
    return;
}

4) Give the values of the following expressions. (25 points)

    int a; int b; int c;
    a = 1; b = 3; c = 4;
    (Note: For every expression, use a=1, b=3, and c=4)

<table>
<thead>
<tr>
<th>Expression</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 a++ + --b</td>
<td>3</td>
</tr>
<tr>
<td>2 a <em>= b++ - c</em>7</td>
<td>-25</td>
</tr>
<tr>
<td>3 b++ + c-- + a*9</td>
<td>16</td>
</tr>
<tr>
<td>4 a + b + c--</td>
<td>8</td>
</tr>
<tr>
<td>5 a += c + b</td>
<td>8</td>
</tr>
</tbody>
</table>