

NAME \_\_\_\_\_

1. Show the output of the following program using the boxes

```
main()
{
  int    a[6][5], b[7], *p;

  a[1][1] = 1;
  a[5][4] = 2;
  *(a + 8) = 3;
  *(a + 3*5+1) = 4;
  p = a + 12;
  p[6] = 5;
  p = &(a[4][3]);
  *(p + 3) = 6;
  *a = 7;
  *p = 8;

  b[3] = 9;
  p = b + 2;
  p[3] = 10;
  *(b+2) = 11;
  *(p+2) = 12;
  p = &(b[1]);
  p[0] = 13;
```

a


b

--	--	--	--	--	--	--

2. Write a complete program to read from 2 files of records and merge them and save the complete records to an output file. File 1 has the following fields: first name then last name then age then M or F for male or female and finally their profession. File 2 only has the ZIP code they live in. See example files below:

input file 1

Fernando Gonzalez 25 M Engineer
Sara Smith 37 F Realtor
John Brown 56 M Director

input file 2

32708
32816
32411

Read each record from file 1 and 2 and save each record with the ZIP code as the 6<sup>th</sup> field to the output file. The output file for this example will look like:

Output file

Fernando Gonzalez 25 M Engineer 32708
Sara Smith 37 F Realtor 32816
John Brown 56 M Director 32411

Finally close all files.

3. What is the contents of each variable in the following program? There is no output so I can only grade you from the history of each variable.

```
int w[2] = {0,1},
    x[2] = {10,11},
    y[2] = {20,21},
    z[2] = {30,31};

int bill(int w[2], int y[2], int *p)
{
    int    x[2] = {100,101};

    w[0] = w[0] + 5;
    x[0] = x[0] + 5;
    y[0] = y[0] + 5;
    z[0] = z[0] + 5;
    p[0] = p[0] + 5;
}

void main()
{
    int    x[2] = {1000,1001},
          z[2] = {4000,4001};

    x[1] = x[1] + 7;
    y[1] = y[1] + 7;
    z[1] = z[1] + 7;

    bill(z,x,w);
}
```

Variables