

Solution to Homework #0

1 What is the Output?

Answer. You should type in the code, compile and check the results.

2 Finish the Following Code

```
(1) int my_strlen(const char* s){
    if (s != NULL){
        int res = 0;
        /* do not use standard strlen */
        /* add your own code here */
        char* p = s;
        while(*p){
            res++; p++;
        }
        return res;
    }
    else{
        /* print out an error message */
        /* add your own code here */
        fprintf(stderr, "NULL String!");
    }
}

(2) struct Point{
    double x;
    double y;
};

double length(Point p){
    /* Note: in pure C, the
       argument should
       be "struct Point p" rather
       than "Point p"
    */

    /* add return _____; here */
    return sqrt(p.x*p.x+p.y*p.y);
}
```

```
void move(Point* pp, double step){
    /* Note: in pure C, the
       argument should
       be "struct Point* p" rather
       than "Point* pp"
    */

    /* move x by step and y by step */
    /* add your own code here */
    pp->x += step;
    pp->y += step;
}

(3) double* array_copy(double[] src, int len){
    /* Note: in pure C, the
       argument should
       be "double* src" rather
       than "double[] src"
    */

    /* add your own code to finish the
       following task */
    /* allocate a memory of size len
       times sizeof(double) */

    double* res =
        (double*)malloc(sizeof(double)*len);
    int i;

    /* copy the contents in the array src
       to the allocated memory */

    for(i=0;i<len;i++){
        res[i] = src[i];
    }

    /* return the pointer to the allocated
       memory */
    return res;
}
```