

Computer Programming**Final Exam - Part I - Short review questions**

1. Transform the following sequence into an equivalent sequence that uses `while` instead of `for`:

```
for (i=0,l=0; s[i]!='\0'; i++, l++);
```

2. Given the following definition of the function `rec`, what is the output of a call `rec(4)` ?

```
void rec(int p) {  
    if (p>1) rec(p-1);  
    printf("%i ",p);  
}
```

3. What changes in the output of the call `rec(4)` if we change the definition of the function in following way:

```
void rec(int p) {  
    if (p>1) rec(--p);  
    printf("%i ",p);  
}
```

4. What is the output of following program ?

```
void fct(int *a, int b) {  
    b++;  
    *a=*a+b;  
}  
int main(void) {  
    int x=3, y=7;  
    fct(&x,y);  
    printf("%i %i",x,y);  
    return 0;  
}
```

5. What is the output of following program sequence?

```
int a[3]={1,2,3};  
int b=5;  
int *p1, *p2;  
p1=&a[1];  
p2=&a[2];  
printf("%i %i %i \n",*p1, *p2, p2-p1);  
p1++;  
*p1=b;  
printf("%i %i \n",*p1, *p2);  
printf("%i %i %i \n", a[0], a[1], a[2]);
```

6. What is the output of following program sequence?

```
char *s1="Ana";
char *s2;
char s3[10]="Ion";
s2=s1;
s1=s3;
s3[0]='D';
printf("%s %s %s", s1, s2, s3);
```

7. The following sequence of declarations and initializations is given:

```
char *pc;
char *str="ciao!"
pc=&str[2];
```

What does the expression `*--pc` mean, and how is it different from `--*pc` ?

8. Find and correct the errors (rewrite the code in a correct form):

```
char *s1;
char *s2;
scanf("%s", s1);
strcpy(s2, s1);
printf("%s %s", *s1, *s2);
```

9. Find and correct the errors (rewrite the code in a correct form):

```
int *t;
for (i=1; i<10; i++)
    scanf("%i", t+i);
for (i=1; i<10; i++)
    printf("%i", t+i);
```