PART-B

Write the answer in the space corresponding to the question in the answer sheet. Correct answer = +4 marks.

1. What will be the value returned by calling `magic(1,2,3)` where `magic` is given by the following function definition?

```
int magic (int x, int y, int z)
{ return (x < y)
  ?
  ((y < z) ? y : (x < z ? z : x))
  :
  ((x < z) ? x : (y < z ? z : y));
}
```

2. What will be the value returned by calling `strange(99)` where `strange` is given by the following function definition?

```
int strange(int n) {
  if (n > 100) {
    return n - 10;
  }
  else {
    return strange(strange(n+11));
  }
}
```

3. What value is returned by calling `fox(3,f)` where `f` and `fox` are functions defined below?

```
int f(int n)
{ return n*n;}

int fox(int n, int (*func)(int))
{ int i; int s = 0;
  for (i = 1; i <= n; i++)
    s += func(i);
  return s;
}
```

4. What will be the output of the following program?

```
#include <stdio.h>

#define SIZE 3

void weird(int A[][SIZE]) {
  int i, j, temp;
  for (i = 0; i < SIZE; i++)
    for (j = i+1; j < SIZE; j++)
      { temp = A[i][j];
        A[i][j] = A[j][i];
        A[j][i] = temp;
      }
}

void main()
{
  int A[SIZE][SIZE] = { {1, 2, 3},
                        {4, 5, 6},
                        {7, 8, 9} };
  weird(A);
  printf("%d", A[1][2]);

}
```

5. What string is returned by calling `bizarre("abcdef")` where `bizarre` is given by the following function definition?

```
char *bizarre(char *s) {
  char *p, *q, tmp;
  int n;

  n = strlen(s);
  q = (n > 0) ? s + n - 1 : s;
  for (p = s; p < q; ++p, --q) {
    tmp = *p;
    *p = *q;
    *q = tmp;
  }
  return s;
}
```