Problems 1-4 are 1.5 points each; 5-6 are 2 pts each.

1. Consider the following program written in C-like syntax:

```c
void main() {
    int value = 2, list[5] = {1,3,5,7,9};
    swap (value, list[0]);
    swap (list[1], list[0]);
    swap (value, list[value]);
}
void swap(int a, int b){
    int temp;
    temp = a;
    a = b;
    b = temp;
}
```

What are the values of variables value and list under a) pass by value b) pass by reference and c) pass by value-result (copy-in, copy-out).

2. Consider the following program written in Pascal-like syntax:

```pascal
program Main(...);
var y : integer;
procedure P(x: integer);
begin
    x := x + 1; write(x,y);
End
begin
    y := 1;
    P(y);
    Write(y)
end.
```

Show the output where Y is passed a) by value, b) by reference; c) by value-result, d) by name

3. Consider the following code:

```c
int zz;
void foo (int x){
    /* body */
}
```

Write a body for foo so that the following code

```c
zz = 1;
p(zz);
printf("%d\n",zz);
```

will produce different output with pass by value, pass by reference, and pass by value-result.
4. Consider the following program written in an unknown language:

```
procedure funge(int a, int b, int c) is
begin
    b := b + 5;
    b := a + c + 4;
    print a, b, c;
end

procedure main is
begin
    int j := 10;
    int k := 15;
    funge(j, j, j + k);
    print j, k;
end
```

Show the output where
a) all parameters are passed by value
b) a and b are passed by reference; c is passed by value
c) a and b are passed by value-result; c is passed by value
d) all parameters are passed by name

5. Research and briefly describe the syntax and semantics of parameter passing and function return values in Visual Basic.NET 2008 Sub and Function subprograms.

6. Research and briefly describe the syntax and semantics of `proc` arguments and return values in tcl (often pronounced “tickle”) procedures.