Student Number: Solutions **Name:** Answers

Osmangazi University, Faculty of Engineering & Architecture 27.10.2007

Departments of Electrical & Computer Engineering "*Introduction to Programming*" 1st midterm

1. Evaluate the following conversions. (Subscripts : **d**ecimal, **h**exadecimal, **b**inary, **o**ctal).

a. $(512)_d$ = ($1000000000)_b$

b. $(1010010100011011)_b$ = ($A51B)_h$

c. $(C2)_h$ = ($194)_d$

d. $(1121)_o$ = ($251)_h$

2. Mark valid declarations with x. (Do not mark invalid ones)

☐	`int __123,__A__`	☐	`float 15.2=X, Y;`
☐	`double int U1,U2;`	☐	`char d; U;`
☒	`signed short Long=000;`	☒	`int A_1_B;long A_2_B;`
☐	`byte B=4, C=0;`	☒	`long double longdouble;`

3. Determine what is printed on the screen when the given code is executed.

a.
```
int A=1,B=1;
A= B++ - ++B;
printf("%d %d",A,B);
```
```
0 3
```

b.
```
float A=1.9;
A+=2.0;
printf("C=%2.2f",A);
```
```
C=3.90
```

c.
```
int A=3; float B=3.1;
printf("Hex(%2d)-%3.2f",A,B);
```
```
Hex( 3)-3.10
```

d.
```
double A=3.84; int B=3.84;
A=B*=A;
printf("%3.1f %d",A,B);
```
```
11.0 11
```

4. What would be the output when the following code is executed?.

```
int foo(int x, int b){
  if(x<0) return 0;
  else if((x>=0)&&(x<=b))
    return (int)(b*(float)x);
  else return 10;
}
int main(void){
  int x=2,y=4,z;
  printf("x%dy%d",foo(x,10),foo(y,3));
  z=foo(y,foo(x,4));
  printf("%4d\n",z);
  return 0;
}
```
```
x20y10  32
```

Note: No books, notes, calculators etc. allowed. 50 minutes.