Model Answers for Week 3

Exercise 1

Decimal number	Binary number	Hexadecimal
30	11110	1E
255	11111111	FF
188	10111100	BC
23	10111	17

Exercise 2

- *a*) $x = 27$
- *b*) $y = x = 1$
- *c*) $x = 3$ and $y = 9$

Exercise 3

- *a*) $x = 6$
- *b*) $x = 52$
- *c*) $x = 6$
- *d*) $x = 0$

Exercise 4

```
#include <stdio.h>      /* standard I/O (input/output) header file */

/*--------------------  main function begins ----------------*/
void main(){

  int x, y;                          /* variable declaration */

  x=(12+6)/2*3;                      /* compute expression */
  printf("x=(12+6)/2*3\n");
```

```
    printf("the result of the above is %d\n\n",x); /* print expression */

    y=x=(2+3)/4;
    printf("y=x=(2+3)/4\n");
    printf("the result of the above is %d\n\n",x);

    y=3+2*(x=7/2);
    printf("3+2*(x=7/2)\n");
    printf("the result of the above is %d\n\n",y);

    x=(int)3.8 + 3.3;
    printf("x=(int)3.8 + 3.3\n");
    printf("the result of the above is %d\n\n",x);

    x=(2+3)*10.5;
    printf("x=(2+3)*10.5\n");
    printf("the result of the above is %d\n\n",x);

    x=22.0*(int)3/10;
    printf("x=22.O*(int)3/10\n");
    printf("the result of the above is %d\n\n",x);

    x=22.0*(int)(3/10);
    printf("22.0*(int)(3/10)\n");
    printf("the result of the above is %d\n\n",x);
}

/*-------------------- main function begins ----------------*/
```

Exercise 5

Self practice.

Exercise 6

The value of *result* is 30.

C code:

```
#include <stdio.h>

void main(){

    int y=2, n=3, result;
```

```
    result=(y+n++)*6;
    printf("n is initially %d and result is %d\n", n, result);
    printf("n is finally %d\n", n);
}
```

Exercise 7

Self practice.