

PRELAB #7 - CSE 1310

Objectives:

The purpose of this PRELAB is to help you in:

- Selection Control Structures.
- Repetition Control Structures.

1. True or False:

- _____ In a for loop expression, the starting counter value must be smaller than the ending counter value.
- The three loop expressions used in for loops must be separated by commas.
- _____ In an 'if' statement, the statement(s) following the 'if' condition is/are executed when the conditional expression within parenthesis evaluates to zero.
- _____ An 'if-else' statement can be used as the statement part of another 'if' statement.
- _____ '!!a' and 'a' have the same value.
- _____ The 'switch' statement provides a multiway conditional branch

2. Fill in the blank:

- All three loops must test a condition that will eventually become _____.
- When the counter value becomes greater than the exit condition in a 'for' loop, the control is transferred to the _____ statement following the body of the 'for' loop.
- The 'for' loop statement allows to specify 3 things about a loop in a single line. They are _____, _____ and _____.
- Two forms of the complement of the condition 'index == value' are _____ and _____.
- A statement that has only a semicolon standing alone is called a _____.

3. What is the output of the following:

```
a.
int main(void)
{
    int i=0, j=0;
    for(;;)
    {
        if(i>5)
            break;
        else
        {
            j=j+1;
            i=j+1;
            printf("\ni=%d and j=%d\n",i ,j);
        }
    }
    return 0;
}
```

```
}
```

b.

```
int main(void)
{
    int i=0;
    for(;i)
        printf("\n You've got mail");
}
```

4. Find the error(s), if any, in each of these statements:

a. if (i>100) printf("Hot\n");
 else printf("Warm\n");
 else printf("Cool\n");

b. if(i>100) printf("Hot\n");
 if(i = 100) printf("Warm\n");
 else printf("Cool\n");

5. Give equivalent logical expressions of the following without negation:

a. $!(a > b)$

b. $!(a <= b \ \&\& \ c <= d)$

c. $!(a < 1 \ || \ b < 2 \ \&\& \ c < 3)$

d. $!(a + 1 == b + 1)$

6. Correct the following if statement; assume the indentation is correct.

```
if(num1<0);
    product = num1 * num2 * num3;
    printf("product is %d\n",product);
else;
    sum = num1 + num2 + num3;
    printf("Sum is %d\n",sum);
printf("Data: %d, %d, %d\n", num1, num2, num3);
```