KSU/CCIS/CS	CSC 215	Mid-term exam 1 - Spring 14 Time allowed: 1:30
Name: .....Review..... ID: .....Review.....		

EXERCISE 1

Write True/ False

In java, behaviors are called methods. In C, they are called subroutines.	T
Subroutines allow structure to the C code.	T
Subroutines help the C programmer think in terms of actions.	T
C helps organize software projects more than Java	F
In C, one has to decide which classes he will use	F
Some problems are better solved with procedural languages	T
In C, the garbage collector manages the memory	F

EXERCISE 2

Select the correct answer

Which of the following is the correct usage of conditional operators used in C?

- **A.** a>b ? c=30 : c=40;
- B. a>b ? c=30;
- C. max = a>b ? a>c?a:c:b>c?b:c
- D. return (a>b)?(a:b)

Given the following declaration: ***int var;*** Which of the following is the correct usage of scanf?

- **A.** scanf("%d", &var);
- B. scanf("%d", var);
- C. scanf("%d", *var);
- D. None

EXERCISE 3

Write the output of the following C program.

```
#include <stdio.h>
int main()
{
    int a=3, b=2;
    printf("\n a, b: %d %d", a, b);
    printf("\n (a-3) && b: %d", (a-3) && b);
    printf("\n a | b: %d", a | b);
     printf("\n !(a-2): %d", !(a-2));
     printf("\n a >> 2: %d", a >> 2);
     printf("\n (a/b) << 3: %d", (a/b) << 3);

    return 0;
}
```

Answer:

```
 a, b: 3 2
(a-3) && b: 0
 a | b: 3
 !(a-2): 0
 a >> 2: 0
 (a/b) << 3: 8
```

What gets printed?

```
int array[2][2] = {0, 1, 2, 3};
int i;
int sum = 0;

for (i =0; i < 4; ++i){

    int x, y;

    x = i % 2;

    if (x){
        y = 0;
    }
    else{
        y = 1;
    }
    sum += array[x][y];
}

printf("%d\n", sum);    // 6
```

EXERCISE 4

Write the outputs of the bellow C program that correspond to the following inputs:

```
#include<stdio.h>
int main(){
    int n1, n2;
    char op;
    printf("Enter the numbers n1 and n2:");
    scanf("%i", &n1);
    scanf("%i", &n2);
    printf("Enter operator:");
    scanf(" %c", &op);
    switch(op)
    {
        case '+':
            {
            printf("\nResult: %i", (n1 + n2)/2);
            break;
            }
        default:
            {
            printf("\nResult: %i", (n1 % n2)/2);
            break;
            }
        }

    return 0;}
```

Inputs	Outputs
5, 7, +	Result: 6
5, 7, 0	Result: 2
7, 5, +	Result: 6
49, 6, -	Result: 0

Write the output of the following C program. (12pts)

```
#include <stdio.h>
int main()

   int i, n=20, sum=0;
   for (i = 1; i <= n; i++) {
        if (i % 5 == 0) { continue; }
        sum += i;
   }
   printf("The value of sum is %d\n", sum);

   sum=0;
   for (i = 1; i <= n; i++) {
        if (i % 5 == 0) { break; }
        sum += i;
   }
   printf("The value of sum is %d\n", sum);

   sum=0;
   while(sum<20){
      sum++;
   }
   printf("The value of sum is %d\n", sum);

   return 0;
}
```

Answer:

```
The value of sum is 160
The value of sum is 10
The value of sum is 20
```

EXERCISE 5

Write a C program that implements the following requirements: (20pts)

The program will

- Ask the user to enter a positive number
- Update a variable holding the maximum number entered so far
- Keep asking for another number until the user enters a negative number.
- Output the maximum number entered by the user or "The user did not enter any positive number" if the user did not enter any positive number.

```
#include<stdio.h>

void main()
{
  int a, max=0;

 do{

  scanf("Please enter a positive number",&a);

  if(a>m)
     m = a;

 }while(a>0);

 if (m>0)
    printf("The maximum number entered by the user is %d\n",m);
 else
    printf("The user did not enter any positive number\n");

}
```