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Introduction to Programming (ETCS-108)

Assignment 8

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Q. 1. What will be the output of the following codes? Also explain your answer.

a.
```
main()
{
        int k = -1, j = 2;
        switch(k %= j*k)
        {
        case -1: printf("%d", k %= 5);
        case 2: printf("%d", j*k);
        default: printf("%d", j /= 3);
        case 3: break;
        case 4: printf("hello world");
        }
}
```

b.
```
main()
{
        int c = 0, d = 5, e = 10, a;
        a = c < 1 ? d > 1 || e>1 ? 100 : 200 : 300;
        if (a) printf("\nThe value of a is : %d", a);
        printf("\n world");
}
```

c.
```
main()
{
        if ('A' < 'a') printf("\nValue of 'a' is greater");
        else printf("\nValue of 'A' is greater");
}
```

Q. 2. You have to display "Best of Luck" on the output screen. Do this by writing a program in C in such a way that there is not a single semicolon used in the program?

Q. 3. What will be the output of the following program segment:

```
main()
{
        char ch = 'x';
        switch (ch)
        {
        case 'x':
        case 'y': printf("\nYou entered y");
        case 'x': printf("\n a as in ashar");
        }
}
```

Q. 4. What is the difference between switch and break statements?

Q. 5. Write a program that calculates and prints the sum and product of the numbers between 1 and 20 that are divisible by 2 or 3.

Q. 6. Find the output of the following code:

a.
```
main()
{ int i = 0, x = 0;
        for (i=0; i<=5; i++)
        {  switch(i.1)
        { case 0:
```

```
        case (1): x += 1; break;
        case (3): x += 2; break;
        default: x += 3;
        } printf("%d", x); }}
```

b.
```
#include<stdio.h>
main()
{       int i = 0, x = 0;
        for (i = 0; i < 10; ++i)
        {  if(i%2 = i) x += i;
           else x--;
           printf("%d", x);
           continue;
        }
        printf("\nx=%d",x); }
```

Q. 7. Write a program to reverse a number.

Q. 8. Describe the output of the following program:

```
#include<stdio.h>
main()
{ int i,j,x=0;
for(i=0;i<38;i++)
for(j=0;j<5;j++)
{
if((i+j)%2 == 0) continue;
switch(i+j-1)
{
case -1:
case 0: x = x + 1;
case 1: break;
case 2:
case 3: x += 2; break;
default: x += 3;
}
printf("%d", x);
}
printf("%d", x);
}
```

Q. 9. Given the four sides of a rectangle, write a program to find out whether its area is greater than its perimeter.

Q. 10. Write a program to find the roots of a quadratic equation. Find the roots for the cases when D<0, D=0, D>0.

Q. 11. Find out the errors if any and write the correct code:

```
main()
{
int x = 10, y = 20;
if(x==y);
printf("\n%d %d", x,y);
}
```

Q. 12. Differentiate between sequential execution and conditional execution.

Q. 13. Why is the usage of "goto" statement not recommended?

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