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## CS0.101: Computer Programming

### Quiz 1 (Fall 2022)

Duration: 45 mins

**Question 1:** (5 marks)

Write a program to find the sum of first  $n$  odd numbers. Here  $n$  can be taken to be an input from the user.

**Question 2:** (5 marks)

Arrange the following in decreasing order of space taken: <sup>4</sup>int, <sup>1</sup>char, <sup>2</sup>double, short. Also mention the space taken by each of these data types.

**Question 3:** (5 marks)

Describe the One's complement and Two's complement method of storing negative numbers. What advantage does the Two's complement method have over One's complement method?

**Question 4:** (5 marks)

Predict the output of the following code fragment assuming it is inside a valid main() function

```
int i=256, j=256;
i >>= 8;
j <<= 24;
printf("%d %d\n", i, j);
```

**Question 5:** (5 marks)

Spot errors(if any) in the following code fragments:

1. This fragment is supposed to print  $x = 0$ .

```
int x=5;
while(x >0);
    x/=2;
printf(x=%c\n", x);
```

2. float a=12.25, b=12.52;

```
if(a = b)
    printf("a and b are equal");
```

### Question 6:

What is output of the following programs with proper justification ?

1. (5 marks)

```
#include<stdio.h>
int main()
{
    int x=4, y, z;
    y = - - x;
    z=x - -;
    printf(“%d %d %d\n”, x, y, z);
    return 0;
}
```

2. (5 marks)

```
#include<stdio.h>
int main()
{
    int p, q, r;
    p = 8 > 5 > 2;
    q = 8 > 5 > 0;
    r = 8 > 5 > 1;
    printf(“%d %d %d\n”, p, q, r);
    return 0;
}
```

3. (5 marks)

```
#include<stdio.h>
int main()
{
    int i=1, j=1;
    for (;;)
    {
        if (i > 5)
            break;
        else
            j += i;
        printf(“%d\n”, j);
        i += j;
    }
    return 0;
}
```

4. (5 marks)

```
#include<stdio.h>
int main()
{
int p, q, r;
p = 9;
q = 10;
r = p == q;
printf("%d\n", r);
return 0;
}
```

**Question 7:** (5 marks)

Write a program to print "Hello world" without using the semicolon ";" anywhere in the program.