

# 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: `int`, `char`, `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);
```

j left

### 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");`

$x = x/2$

4

(1)

## 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;
}
```

*Handwritten notes:*  $y = 3; x = 3$   
 $z = 3; x = 2$

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;
}
```

*Handwritten notes:*  $j = 2$   
 $i = 2$

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.