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);
```

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.