CIS 111 Midterm
Summer 2019.

120 points. 14 questions. 2 bonus questions @ 20 points.

Full Name…………………………………………………………………………

UO ID……………………………..……………………………………………

1. **This following program has an error, what is it? [5 pts]**

```
let $greet, _greet, #greet, @result;
$greet = prompt ("Enter the first greet message");
_greet= prompt ("Enter the second greet message");
#greet= prompt ("Enter the second greet message");
@result = $greet + "\n" + _greet + "\n" + #greet;
alert (@result);
```

2. **Using a for-loop, reverse the string str =** "**Albatross is white**". **[10 pts]**

3. what the following code will print: [10 pts]

```
let s, t, u, v, w, z, x, i;
s="abc";
t="$";
u="$";
v="$";
w="$";
z="$";
x=2;
i=1;
while (i < s.length) {
    t=" "+ i;
    u=i*2;
    if ( s.includes ('c') )
       v='#';
    z=z+t+u+v+w;
    i++;
 }
console.log (z);
```

4. what the following code will print? [10 pts]

```
a=8.0;
b=4.0;
b+=4.0;
c=1.0;
c*=2;
a/=2.0;
d=10.0;
d-=1;
console.log(a-b);
console.log(a+b);
console.log(a/b);
console.log(a*b);
console.log(a%b);
console.log(a/b==c);
console.log(a!=c);
console.log(a>c);
console.log(b>=a);
console.log (d<a);
console.log (!(c<=d));
```

Output:

```
-4
12
0.5
32
4
false
true
true
true
false
false
```

5. **Write a program to find the maximum element of an array.**
   Use any loop to traverse each element of the following array and use just
   one "if" statement to get the maximum number 9 as output. [10 pts]

   ```
    let maxnum=0;
   let lst= [1,2,3,4,5,1,2,6,7,3,9, 0, 1];
   ```

6. **What the following code will print when the user enters 5 for a and 6 for b? [5 pts]**

```
let a = prompt ("Enter the first number: ");
let b = prompt ("Enter the second number: ");
let sum = a + b;
console.log ("the sum of " + a + " and " + b + " is: " + sum );
```

7. **Write a program to filter out all the alphabetic letters in the following string. Your output will be "2 !!!". [10 pts]**

```
let str="2 stringifies!!!";
```

8. **Write a program to calculate the area of a circle that has a radius 12. The formula for the area of a circle is pi*r^2. [5 pts]**

9. **What the following code will print? [5pts]**

```
let num = -10, result="";
result=num+"";

if (num >= 0) {
  if (num == 0)
    result=result + " is Zero ";
  else {
    if (num % 2 == 0)
      result=result + " is Even ";
    else if ((num % 3) == 0)
      result=result + " is divisible by 3 ";
    else
      result=result + " is not divisible by 2 and 3 ";
  }
  result=result + " and Positive number ";
} else {
  if (num < 0)
    {
    if (num % 2 == 1)
      result=result + " is an odd ";
    else
      result=result + " is an even ";
  }
  result=result + " and negative number ";
}
console.log(result);
```

10. Write the output of the following code. [10 pts]
```
let num, i;
num = 10;
i=0;
while (i<num){
    console.log ("num"+"*"+i);
    i++;
}
```

11. Write the output of the following code. [10 pts]
```
let i, x=10;
for(i=1;i<x+1;i++)
    if (x%i==0)
        console.log(i);
```

12. what the following code will print: [10 pts]

```
let i, x, r=0;
x=10;
i=0;
do{
    i++;
    r+=i;
    i++;
}
while (i<x+1)
console.log(r);
```

13. Write the while and do-while conversion of the following for-loop code: [10 pts]

```
let i, x, r=0;
x=10;
for(i=1;i<x+1;i++){
    i++;
    if (x%i==1)
        r+=i;
}
console.log(r);
```

14. Analyze the following two codes and then write the corresponding outputs: [10 pts]

| ```
let i,x;
x=12;
for(i=1; i<x; i++){
    if (x%i==2){
        break;
    }
    console.log(i);
}
alert ("Oh no, I am broke!");
``` | ```
let i, x;
x=12;
for(i=1;i<x;i++){
    if (x%i==0){
        continue;
    }
    console.log(i);
}
alert ("Ooof, I survived or did I?");
``` |

15. **What is printed on the console after the following programs are executed?**
    [Bonus points-10]

a) let str = "sandstone finder";
    let str2= str.substr(5, 4);
    console.log(str2);

b)   let count=0, number=4;
          let i=number;
          while (i>2) {
                  count=count+1;
                  i--;
              }
          console.log(count);

c) let total=0, number=10;
        for (let i=0; i<=number; i+=5) {
                  total+=i;
            }
        console.log(i);

d) What is the range of possible values of result after the following code is executed?

```
let result = Math.floor((Math.random() * 10) + 1);
console.log(result);
```

e) let string1 = "Hi there";
   let string2 = string1.indexOf('t') + string1.charAt(5);
   console.log(string2);

16. [Bonus points-10]

a) What loop is designed to be used if you always want the statements in the loop to execute at least once, give an example code?

b) What is printed here?
```
let n=5;
console.log(n % 2 == 1);
```

c) What javascript method can be used to allow the application user to enter data from the keyboard.

d) The variable num2 will have what value after the third line is executed?

```
let num1 = "10";
let num2 = 11;
num2 = num2 + num1;
```

e) The variable result will have what value after the third line?
```
let value1 = 99;
let value2 = 25;
let result = "value1" + "value2";
```