COMP6010 Practical Week 7 solutions

1.

(1) Write a function that when passed integer n, returns n^3.

(2) Write a function that when passed integers n and k, returns n^k.

Answers:

```
(1)
def cube(n):
  return n*n*n

number = int(input("Enter an integer: "))
print(cube(number))

(2)
def expo(n, k):
  return n**k

number = int(input("Enter an integer n: "))
k = int(input("Enter an integer k: "))
print(expo(number, k))
print(pow(number, k)) # build-in function
```

2. Write a function to calculate the absolute value of number n.

Answer:

```
def absolute_value(num):
    """This function returns the absolute
    value of the entered number"""

    if num >= 0:
        return num
    else:
        return -num


print(absolute_value(2))

print(absolute_value(-4))
```

3. Introduce the output of the following programs.

```
(1)
def greet(name, msg="How are you?"):

    print("Hello", name + ', ' + msg)

greet("Eric")
```

```
greet("Monica", "How do you do?")

(2)
def greet(name = 'Michael', msg="How are you?"):

    print("Hello", name + ', ' + msg)

greet()
greet("Eric")
greet("Monica", "How do you do?")
greet(msg="How do you do?", name="Flora")
greet(name="Flora")
```

Answers:

```
(1)
Hello Eric, How are you?
Hello Monica, How do you do?

(2)
Hello Michael, How are you?
Hello Eric, How are you?
Hello Monica, How do you do?
Hello Flora, How do you do?
Hello Flora, How are you?
```

4. Define a function that returns the mean of 3 numbers.

Answer:

```
def median(a, b, c):
  if (a >= b and c >= a) or (a >= c and b >= a):
    return a
  if (c >= a and b >= c) or (c >= b and a >= c):
    return c
  return b
```

5. Define a function that when passed a number, returns the sum of digits in that number.

Answer:

```
def sum_digits(n):
  sum = 0
  while n > 0:
    sum = sum + n%10
    n = n//10
  return sum
```