CONCORDIA UNIVERSITY
DEPARTMENT OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING
SOEN 6011: SOFTWARE ENGINEERING PROCESS: SUMMER 2019

DELIVERABLE 1: OPEN PROBLEMS

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PROBLEM T1-OP5. Source(s): "Give a brief description, not exceeding one page, of your function, including the domain and co-domain of function, and the characteristics that make it unique. To ensure that you have attained sufficient background, Test 1 will have a problem related to your function."

INTRODUCTION

The exponential function $ab^x$is one of the power rules of math, which involves an exponent. This exponent is represented with a variable rather than a constant, and its base is represented with constant value rather than a variable. Let $f(x) = ab^x$ be an exponential function where "b" is its change factor (or a constant), the exponent "x" is the independent variable (or input of the function), the coefficient "a" is called the initial value of the function (or the y-intercept), and "f(x)" represent the dependent variable (or output of the function)

DOMAIN:

The domain is a set of all real numbers,R. where :$b > 0$,$x > 0$

CO DOMAIN

The co-domain is also a set of all real numbers, R.

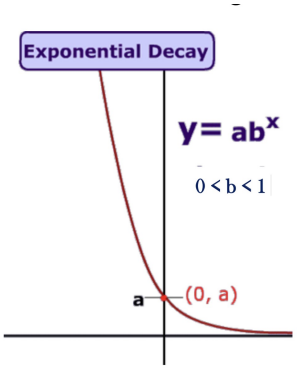
CHARACTERISTICS

Fig:1 Exponential functions defined by an equation of the form ab^x are called exponential decay functions if the change factor "b" (fixed base value) is $0 < b < 1$, or it is also called exponential growth functions if the change factor is $b > 0$
Fig:2 The y-intercept is (0,a) and it is located at the initial value "a". There is no x-intercept. The domain for an exponential decay function of this form is all real numbers and the range is $y > 0$

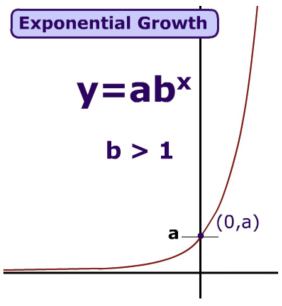
GRAPH

REFERENCES

https://www.cgc.edu/Academics/LearningCenter/Math/Documents/Exponential$_F$unctions$_W$orkshop.pdf



(a) Fig: 1



(b) Fig: 2

Figure 1: Representation of ab^x