CISC1006: Probability and Statistics

Technology Assignment 1: From Data to Information Search, Present and Analyze Data

(Percentage, Percentage Change and Annual Growth Rate)

Due: Feb. 24, 2021

Student Number	Name
Question 1	
Give calculation steps with formula using the dat	a in the file "MetaData China US"
(a) GDP per capita of US isabsolute term.	more than that of China in 2016 in
(b) GDP per capita of US is relative term (in percentage change).	more than that of China in 2016 in
(c) GDP growth rate of China isabsolute term.	more than that of US in 2017 in
(d) GDP growth rate of China is relative term (in percentage change).	more than that of US in 2017 in

	hether the following true total growth						
growtl	GDP in US grow n of 6.92 % ov +2.86 %+1.49 %=6	er the three-					
	That is the (average and 2014. (correct to	-		y use per capita	a in China t	oetween 1	993
	That is the (average)		rate of energy	use per capita	in <mark>US</mark> betw	een 1993	and
Question			1: 14	D : 1	200 20202		
	data file "CISC100			•			
	t the data in a Bar	Chart in total v	vith its compon	ents over time i	n absolute	term. (ir	<u>isert</u>
the ch	art here)						

	resent the data in a Bar Chart in total with its components over time in relative term (in
pe	ercentage). (insert chart here)
(3) Des	cribe the changes in the values (correct to whole number percentage, e.g. 12%)
(a) -	The total tourist arrivals in Macao grow very fast at an average annual growth rate of from 1998 to 2019.
	Tourist arrivals from Mainland China has the highest average annual growth rate of, compared to the tourist from HK, Taiwan and other countries with annual
	growth rate of,, respectively from 1998 to 2019.
	The tourist arrivals from mainland China have an average annual grow rate of

(d) The total tourist arrivals in Macao increased by people in absolute term from 1998 to 2019, an increase of% in relative term.																			
(3)	Descr	ibe th	ne cha	nges	in pe	rcenta	ages (corre	ct to v	vhole	numb	er)							
(a) Ca	lculat	e the	perce	ntages	s of T	ourist	s fron	n Mai	nland	, HK,	and T	aiwa	n in to	otal fr	om 19	998 to		
	20	19 in	excel.	. (no a	nswe	r is re	quire	d here	e)										
(b) Th	e per	centag	ge of t	ourist	arriv	als fro	om M	ainlar	d chi	na has	s incre	eased	from		_% in	1998		
	to		% i	n 201	9, an i	increa	se of								in abs	olute	term;		
	or		%	in rel	ative	term.													
(c) Th	e pero	centag	ge of to	ourist	arriva	als fro	m Hk	K has o	decrea	ased f	rom _		% in 1	998 to	0	%		
	in	2019), a (decrea	ase of	f								in ab	solute	e terr	n; or		
			_% in	relati	ve ter	m, ev	en the	ough	the ac	tual n	umbe	er of t	ourist	arriv	als fro	om H	K has		
increased by people, or increased by%.																			
(d) The percentage of tourist arrivals from Mainland China has an average annual increase rate																			
of%.																			
(4) Calculate the yearly growth rate of total tourist arrivals from 1998 to 2020. (correct to whole																			
	numb	er)																	
1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
					2	019						201	0						2020
						018						201	7						2020

(a) Which are the years with two highest growth rate? Could you give the reasons briefly?

(b) Which are the years with the lowest growth rate? Could you give the reasons briefly?

Question 3: (Optional)

- (a) Find the data for Macao's Gross domestic product (GDP) at current basic prices, by production approach from 1998 to 2019. Present the data in chart. Which production section contribute most to Macao's GDP? Upload your excel with the chart on UMMoodle.
- (b) Find the original data in "Metadata China US" from World Bank, and download it in excel format;

Upload the original downloaded data on UMMoodle.