CITY UNIVERSITY OF HONG KONG

Course code & title : CS2204 - Fundamentals of Internet Applications Development

Session : Semester B 2015/16

Time allowed : Two hours

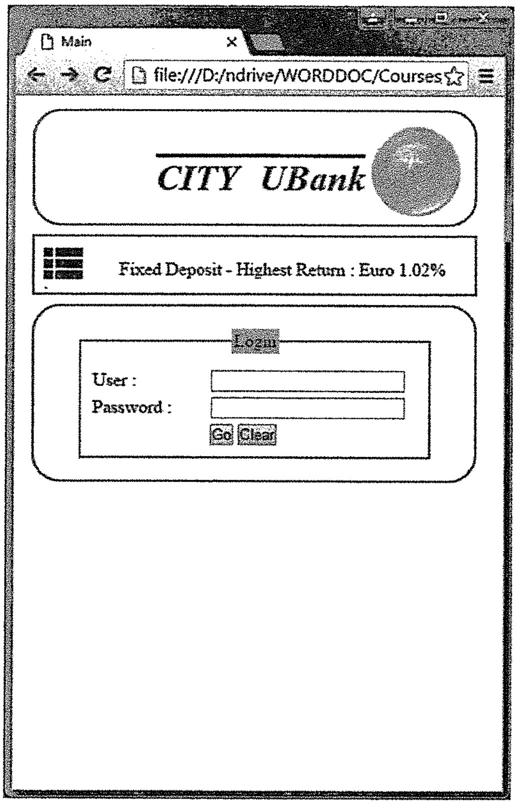
This paper has eight pages (including this cover page).

1. There are 4 questions in total.
2. Answer ALL questions.
3. A set of reference pages is provided at the end.

*This is a **closed-book** examination.*

No materials or aids are allowed during the whole examination. If any unauthorized materials or aids are found on a candidate during the examination, the candidate will be subject to disciplinary action.

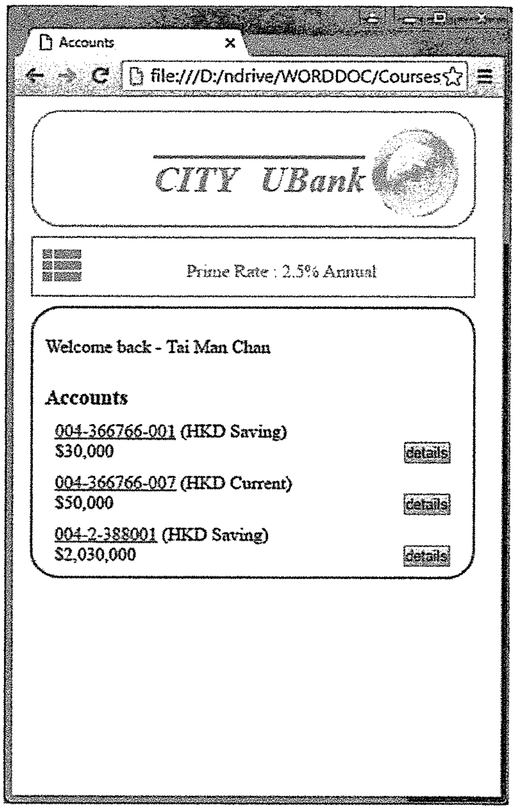
ANSWER ALL QUESTIONS IN THIS PAPER



Fixed Deposit - Highest Return : Euro 1.02%

User :

Password :



Prime Rate : 2.5% Annual

Welcome back - Tai Man Chan

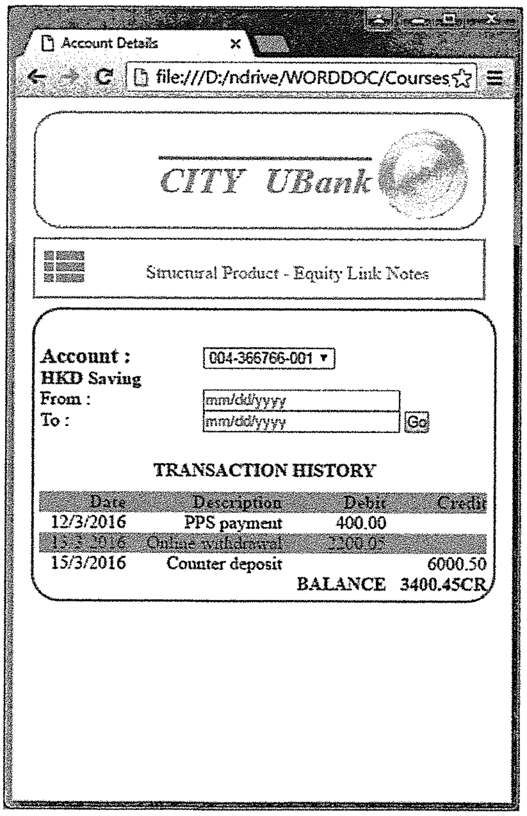
Accounts

004-366766-001 (HKD Saving)
$30,000

004-366766-007 (HKD Current)
$50,000

004-2-388001 (HKD Saving)
$2,030,000

p1.html & p2.html

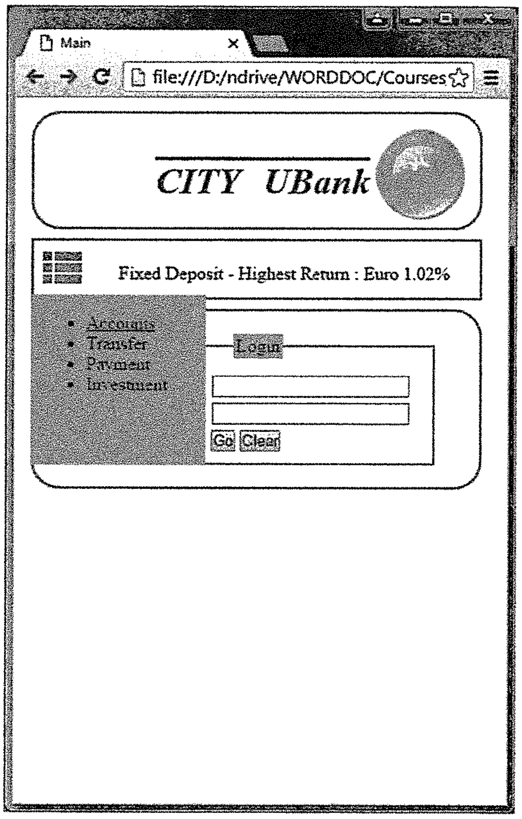


Structural Product - Equity Link Notes

Account : 004-366766-001 ▾
HKD Saving
From : mm/dd/yyyy
To : mm/dd/yyyy

TRANSACTION HISTORY

Date	Description	Debit	Credit
12/3/2016	PPS payment	400.00	
15/3/2016	Online withdrawal	2200.05	
15/3/2016	Counter deposit		6000.50
		BALANCE	**3400.45CR**



Fixed Deposit - Highest Return : Euro 1.02%

p3.html & p1.html (with menu shown)

Question 1 (25%)

Write down only the HTML in *<body>* section for the Web pages according to the requirements below. You may use empty strings for values that are not given. Include all structural tags (with possible ids) which would enable you to define styles in Question 2. Ignore all styles or layout related attributes and HTML not asked for.

The Web site has 3 pages in 4 folders, *html, css, js* and *res* under the root folder holding Web pages, style sheets, Javascripts and images respectively. Appropriate URL should be used in your answer.

The Common Page Structure

The 3 pages share a common structure with 1 hidden block and 3 visible blocks, namely *banner, header* and *content.* You only need to write the full page HTML in the first page *p1.html.* For the other 2 pages, *p2.html* and *p3.html,* only the *content* block HTML are required.

Page 1 - p1.html

Banner block

a) This is an iframe with Web page x1.html as its content [1 mark]

Header block

b) Contains an image as the menu icon and a passage of text as the promotion message . [3 marks]

Menu block (hidden)

c) Another iframe with Web page x2.html as its content [1 mark]

Content block

d) Contains a form as shown with 2 fields for login, user and password. Each field with the label and the two buttons can be selected as a unit. The form will be submitted to p2.html [6 marks]

Page 2 – p2.html

Content block

e) Contains a level-4 heading followed by a definition list. Only 1 set of definition title and data is required

f) The definition title contains a link showing the account number and the account type as a text; the link has to be written in way that when clicked the account number will be carried forward in the URL to p3.html [4 marks]

g) The definition data contains the account balance and a *detail* button as shown [2 marks]

Page 3 – p3.html

Content block

h) A selection box can show 2 account numbers to be chosen [2 marks]

i) Ignore the From – To date boxes and the button (answers not required)

j) A full structure table with 5 rows, 4 columns and a title "Transaction History"; the first row is the header and the last row is footer [6 marks]

Question 2 (25%)

Add styles to the Web pages by writing CSS rules (i.e. no inline styles and no table for layout control) for the HTML in Question 1 according to the requirements below. No need to write styles not asked for even if they are shown in the screen shot.

Remember to add structural tags, e.g. *<div>* and identification attributes (e.g. *id* or *class*) to your answer in Question 1 or clearly state which and how HTML elements are changed in the answer of this question. You should select elements as specific as possible but at the same time not over using the *id* attribute. Use *liquid layout* with NO absolute values for block dimensions. The dimensions could be estimated with reference to the screen shot and exact values are not important.

The Common Page Layout

a) Write the <link> tag in a way that this common layout can be applied to all 3 pages [1 mark]

b) All 4 blocks use fixed positioning, occupy 90% of width of the container, 3.5% width away from the left border of the page, vertically 2% away from the top border and each other [2 marks]

c) All 4 blocks have borders with solid line, 2px in width, Gray in color and round corners of radius 25px; all contents would be hidden if they are too big for the blocks [3 marks]

Banner block

d) Has a height of 16% [1 mark]

Header block

e) Has a height of 8%, the borders have no round corners; the image (menu icon) is on the left of the passage of text which is centered [3 marks]

Menu block (hidden)

f) It is not shown when the page is loaded but if shown, is positioned right after the *header* block and on top of the *content* block, 35% width of container with silver color as background [4 marks]

Content block

g) It is placed after the header block [1 mark]

Page 1 - p1.html
Content block

h) The form occupies 80% width of the *content* block, centered with top and bottom margin 5% [2 marks]

Page 2 - p2.html
Content block

i) Definition titles are bold and detail buttons are at the right [2 marks]

Page 3 - p3.html
Content block

j) All text of the table are at the right; text of table title and footer are always in uppercase [2 marks]

k) All rows in table header and even rows in table body have a silver color background [4 marks]

Question 3 (25%)

Add Javascript to the Web pages to achieve the following requirements. You should highlight changes to the HTML codes, if any, in the answer of this question.

a) Showing the *menu* block in all pages

Set up an event handler when the *menu* icon in header block is clicked. Write the <script> tag in a way that this event handler can be used in all pages. [3 marks]

Write Javascript for the event handler to show the *menu* block if it is not already displayed, make the *menu* icon 50% lighter in color (hint: use the correct CSS property). If the *menu* is shown already, hide it and set the *menu* icon back to its original color. [5 marks]

b) Page 1 - p1.html

Set up an event handler for form submission in p1.html. [2 marks]

Given a function *checkForm(user, pw)* which takes 2 parameters and performs user and password checking, it returns *true* if checking is successful and otherwise returns *false*. Use this function to write Javascript for the event handler to perform login checking. If login fails, issue an error message or else the form is submitted to p2.html [5 marks]

c) Page 3 - p3.html

Write Javascript to calculate the balance of the account after the page is loaded. The table is known to have 4 columns with the 3rd column as debit amount and the 4th column as credit amount. Number of rows is only known after the page is loaded and will change on each page reload. The final balance amount calculated is put at the 4th column of the footer row. A suffix "DR" or "CR" is appended to the balance amount if debit or credit amount respectively is larger. No suffix for a zero balance. [10 marks]

Question 4 (25%)

a) Briefly describe what the followings are and explain the relationships among them in terms of protocols used:

i) Internet
ii) Intranet
iii) Extranet [8 marks]

b) Briefly describe what the followings are. When should they be used and why?

i) inline style
ii) embedded style
iii) external style [8 marks]

c) Briefly describe what the followings are. When should they be used and why?

i) inline script
ii) embedded script
iii) external script [9 marks]

~ End ~

CS2204 Fundamentals of Internet Application Dev

CSS Reference

Name	Values
'background-color'	<color> | transparent | inherit
'background-image'	<uri> | none | inherit
'background-position'	[[<percentage> | <length> | left | center | right] [<percentage> | <length> | top | center | bottom]?] | [[left | center | right] || [top | center | bottom]] | inherit
'background-repeat'	repeat | repeat-x | repeat-y | no-repeat | inherit
'background'	['background-color' || 'background-image' || 'background-repeat' || 'background-attachment' || 'background-position'] | inherit
'border-color'	[<color> | transparent]{1,4} | inherit
'border-radius'	<length> | <percentage>
'border-spacing'	<length> <length>? | inherit
'border-style'	<border-style>{1,4} | inherit
'border'	[<border-width> || <border-style> || 'border-top-color'] | inherit
'bottom'	<length> | <percentage> | auto | inherit
'box-shadow'	none | <h-shadow> <v-shadow>[blur] [spread] [color] | inherit
'color'	<color> | inherit
'display'	inline | block | list-item | inline-block | table | inline-table | table-row-group | table-header-group | table-footer-group | table-row | table-column-group | table-column | table-cell | table-caption | none | inherit
'float'	left | right | none | inherit
'font-size'	<absolute-size> | <relative-size> | <length> | <percentage> | inherit
'font-style'	normal | italic | oblique | inherit
'left'	<length> | <percentage> | auto | inherit
'height'	<length> | <percentage> | auto | inherit
'list-style-image'	<uri> | none | inherit
'list-style-position'	inside | outside | inherit
'list-style-type'	disc | circle | square | decimal | decimal-leading-zero | lower-roman | upper-roman | lower-greek | lower-latin | upper-latin | armenian | georgian | lower-alpha | upper-alpha | none | inherit
'list-style'	['list-style-type' || 'list-style-position' || 'list-style-image'] | inherit
'margin-right' 'margin-left'	<margin-width> | inherit
'margin-top' 'margin-bottom'	<margin-width> | inherit
'margin'	<margin-width>{1,4} | inherit
'opacity'	<number> | initial |inherit
'overflow'	visible | hidden | scroll | auto | inherit
'padding-top' 'padding-right' 'padding-bottom' 'padding-left'	<padding-width> | inherit
'padding'	<padding-width>{1,4} | inherit
'position'	static | relative | absolute | fixed | inherit
'text-align'	left | right | center | justify | inherit
'text-decoration'	none | [underline || overline || line-through || blink] | inherit
'text-indent'	<length> | <percentage> | inherit
'text-transform'	capitalize | uppercase | lowercase | none | inherit
'top'	<length> | <percentage> | auto | inherit
'transform'	translate(x,y) | scale(x,y) | rotate(angle)
'vertical-align'	baseline | sub | super | top | text-top | middle | bottom | text-bottom | <percentage> | <length> | inherit
'visibility'	visible | hidden | collapse | inherit

Name	Values
'width'	<length> | <percentage> | auto | inherit
'word-spacing'	normal | <length> | inherit
'z-index'	auto | <integer> | inherit

Javascript Reference

Array Object Properties

Property	Description
constructor	Returns the function that created the Array object's prototype
length	Sets or returns the number of elements in an array
prototype	Allows you to add properties and methods to an Array object

Document / Window / String Object Properties and Methods

Property / Method	Description
document.forms	Returns a collection of all the forms in the document
document.getElementById()	Returns the element that has the ID attribute with the specified value
document.getElementsByName()	Accesses all elements with a specified name
document.getElementsByTagName()	Returns a NodeList containing all elements with the specified tagname
document.URL	Returns the full URL of the document
document.write()	Writes HTML expressions or JavaScript code to a document
document.querySelector()	Returns the first element that match the selector
document.querySelectorAll()	Returns a collection of all elements that meatch the selector
window.localStorage.getItem()	Returns a string/object based on a key/attribute
window.localStorage.setItem()	Sets a string/object based on a key/attribute
window.location.search	Returns the query portion of the URL including the "?" character
substring(start [,end])	Extracts the characters from a string, between two specified indices
split([separator])	Splits a string into an array of substrings