DSV Institutionen för Data-
och Systemvetenskap

STOCKHOLMS UNIVERSITET

KUNGLIGA TEKNISKA HÖGSKOLAN
VETENSKAP OCH KONST

***:96 (SU) and 2I1263 (KTH)
Internet Application Protocols
and Standards**

Exam 2005-02-19-solved.doc

The following documents are allowed during the exam:

1. Documents in Compendium 1, printed on colored paper.

2. Documents in Compendium 2, printed on colored paper.

3. Documents in Compendium 3, printed on colored paper.

4. Documents in Compendium 7, printed on colored paper.

5. Documents in Compendium 9, printed on colored paper.

6. Ordinary language dictionaries between English and Swedish.

Note 1: Compendium 0, 4, 5, 6 and 8 are not allowed during the exam.

Note 2: The exam supervisor will check that you do not have copies of the disallowed compendiums. Bringing such compendiums on colored paper is cheating and can result in suspension of your rights to study.

Note 3: Underscoring and short handwritten notes in the yellow documents are allowed.

Note 4: A few copies of the allowed compendiums will be available for loan during the exam for students who have not brought the compendiums.

Important warning

It is not acceptable to answer an exam question by just a verbatim quote from the allowed documents above. You must show that you understand the question and your answer by using your own words.

Jacob Palme will come to the exam rooms about 11:00 to ask if anyone needs a clarification of a question.

No.	Question in English	Question in Swedish	Max points

1	Write an ABNF specification for the HTML <TABLE> command and the four attributes border, align, width and height which can look like for example the two examples below:
	
	`<TABLE align=left width=200 height=500>`
	`<TABLE border=0 align=center width=100>`
		Skriv en ABNF-specifikation för <TABLE>-kommandot i HTML med attributen border, align, width och height, som t.ex. kan se ut som t.ex. de två exemplen nedan:	6

No.	Question in English	Question in Swedish	Max points

Answer:

```
table-tag = "<TABLE" attlist [LWS] ">"
attlist = *(LWS (border / align / width / height))
border = "border=" *DIGIT
width = "width=" 1*DIGIT
height = "height=" 1*DIGIT
align = "align= ("left" / "right" / "center")
```

| 2 | A web hotel serves a number of different domains on the same host machine. How will the server know, when a web browser connects to it, which of the different domain contents to use? | Ett webb-hotell har ett antal olika domäner på en och samma värddator. Hur kan hotellets server veta, när en webbläsare kopplar sig till den, vilken av de olika domänernas innehåll som skall visas? | 6 |

Answer:

The domain is specified in the "Host:" heading field in the HTTP request command. Example:

```
GET / HTTP/1.1
Host: www.palme.nu
```

| 3 | Assume that you want to send an e-mail from Sweden to 100 different recipients in America. Is it possible to avoid having to send the mail content 100 times across the Atlantic, and if so, how? | Antag att du vill sända ett epost-brev från Sverige till 100 olika mottagare i USA. Är det möjligt att undvika att behöva sända brevets innehåll 100 gånger över Atlanten, och i så fall hur? | 6 |

Answer:

Yes, you can connect to a single US MTA and list the 100 recipients in 100 RCPT TO SMTP command. This, however, will only work if the US MTA allows this, which normally means that the Swedish MTA has an agreement with the US MTA to allow this. This will of course be more efficient if you are using ESMTP PIPELINING.
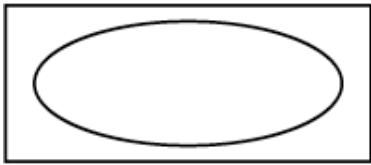
If you often send mail to the same set of 100 recipients, an alternative might be to set up a mailing list on a US MTA. This will be even faster, since you need only use one RCPT TO SMTP-command in the transatlantic connection.

| 4 | You have the following HTML code: | Du har följande HTML-kod: | 6 |

No.	Question in English	Question in Swedish	Max points

```
<!DOCTYPE HTML PUBLIC "-//W3C//DTD HTML 4.01
Transitional//EN">
<html>
<head>
</head>
<body>
<div id=oval>
<img src="oval-in-rectangle.gif" width="200" height="88">
</div>
<div id=TextInOval>DSV</div>
</body>
</html>
```
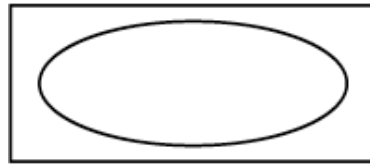
The image file oval-in-rectangle.gif looks like this:

Bildfilen oval-in-rectangle-gif ser ut så här:

How can you, using CSS, get the text "DSV" to be shown in the middle of the oval, like this:

Hur kan du med hjälp av CSS få texten "DSV" att placeras mitt i ovalen, så här:

No.	Question in English	Question in Swedish	Max points

Answer:

There are many possible solutions. For example, when I tested, it worked equally well without any z-index attribute in solution 1 below.

Solution 1:

```
<style type="text/css">
#TextInOval {
        position: fixed; left: 0; top: 0; width: 220;
        text-align: center; padding-top: 41;
        font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 24px;
}
</style>
```

Solution 2:

```
<style type="text/css">
#oval {
        z-index: 1;
        position: fixed; left: 0; top: 0; width: 220;
}
#TextInOval {
        z-index: 2;
        position: fixed; left: 0; top: 0; width: 200;
        text-align: center; padding-top: 27;
        font-family: Verdana, Arial, Helvetica, sans-serif;
        font-size: 24px;
}
</style>
```