1. Create a simple webpage with a header, a main content section and a footer. Apply a media query that changes the background color of the header to blue when the screen width is less than 600px.

```html
Answer: <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
header{
background-color: #f2f2f2;
padding: 20px;
text-align: center;
}
@media screen and (max-width:600px) {header{
background-color: blue;
}}
</style>
</head>
<body>
<header><h1>Responsive Header</h1></header>
<main>
<p>Main Content</p>
</main>
<footer>
<p>Footer</p>
</footer>
</body>
</html>
```

2. Create an image gallery with three images in a row. Use media queries to adjust the layout to two images in a row for screens smaller than 800px and one imahe in a row for the screeens smaller than 500px.

```html
Answer:- <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
.image-gallery{display: flex;
flex-wrap: wrap;
justify-content: space-between;}
.image-gallery img{width: 30%;
margin: 10px;}
@media screen and (max-height: 800px){.image-gallery img{width: 45%;}}
@media screen and (max-width:500px) {.image-gallery img{width:100%;}}
</style>
```

```
</head>
<body>
<div class="image-gallery">
<img src="./Image.jpeg" alt="1">
<img src="./Image.jpeg" alt="2">
<img src="./Image.jpeg" alt="3">
</div>
</body>
</html>
```

3. Create a navigation bar t=with five links. Apply a media query that converts the navigation into a vertical list for screens smaller than 768px and also changes the background color to gray.

```
Answer:- <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
.navbar{display: flex;
justify-content: space-around;
background-color: black;}
.navbar a{text-decoration: none;
padding: 10px;
color: white;}
@media screen and(max-width: 768) {.navbar{flex-direction: column;
align-items: center;
background-color: gray;}}
</style>
</head>
<body>
<nav class="navbar">
<a href="#">Home</a>
<a href="#">name</a>
<a href="#">about</a>
<a href="#">services</a>
<a href="#">portfolio</a>
<a href="#">contact</a>
</nav>
</body>
</html>
```

4. Create a grid based layout containing four grid items which arranges them as the screen size changes.

```
Answer:- <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
```

```
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<Style>
body{margin: 0;
font-family: Arial, Helvetica, sans-serif; }
.grid-container{
display: grid;
grid-template-columns: 1fr;
gap: 20px;
padding: 20px;
background-color: #f5f5f5;
min-height:100vh
}
.item{
background-color: #ddd;
padding: 20px;
text-align: center;
}
.header{background-color: red;
color: white;}
.sidebar{background-color: green;
color: white;}
.main{background-color: blue;
color: white;}
.footer{background-color: chocolate;
color: white;}
@media screen and (min-width:768px){.grid-container{grid-template-columns: repeat(3, 1fr);
grid-template-areas: "header header header" "sidebar sidebar sidebar" "footer footer footer";}}
</Style>
</head>
<body>
<div class="grid-container">
<div class="item header">box1</div>
<div class="item sidebar">box2</div>
<div class="item main">box3</div>
<div class="item footer">box4</div>
</div>
</body>
</html>
```

5. Create the below given layout using the flexbox in css which should adapt itself on mobile screen as per given below output.

```
Answer:- <!DOCTYPE html>
<html lang="en">
<head>
<meta charset="UTF-8">
<meta name="viewport" content="width=device-width, initial-scale=1.0">
<title>Document</title>
<style>
body{margin: 0;
font-family: Arial, Helvetica, sans-serif;}
.container{display: flex;
```

```css
flex-direction: column;
min-height: 100vh;
background-color: #f5f5f5;}
.header,.footer{background-color: #333;
color: white;
padding: 20px;
text-align: center;}
.main{
display: flex;
flex-direction: column;
flex: 1;
}
.sidebar, .content{background-color: #ddd;
padding: 20px;
text-align: center;}
.sidebar{background-color: #66cc99;
color: white;}
.content{background-color: green;
color: wheat;}
@media screen and (min-width: 768px) {
.container{flex-direction: row;}
.sidebar,.content{flex: 1;}}
</style>
</head>
<body>
<div class="container">
<div class="header">header</div>
<div class="main">
<div class="sidebar">sidebar</div>
<div class="content">main content</div>
</div>
<div class="footer">footer</div>
</div>
</body>
</html>
```