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Class : TE(A)

Roll No.: COTA59

Assignment No.: 06

PROGRAM CODE :

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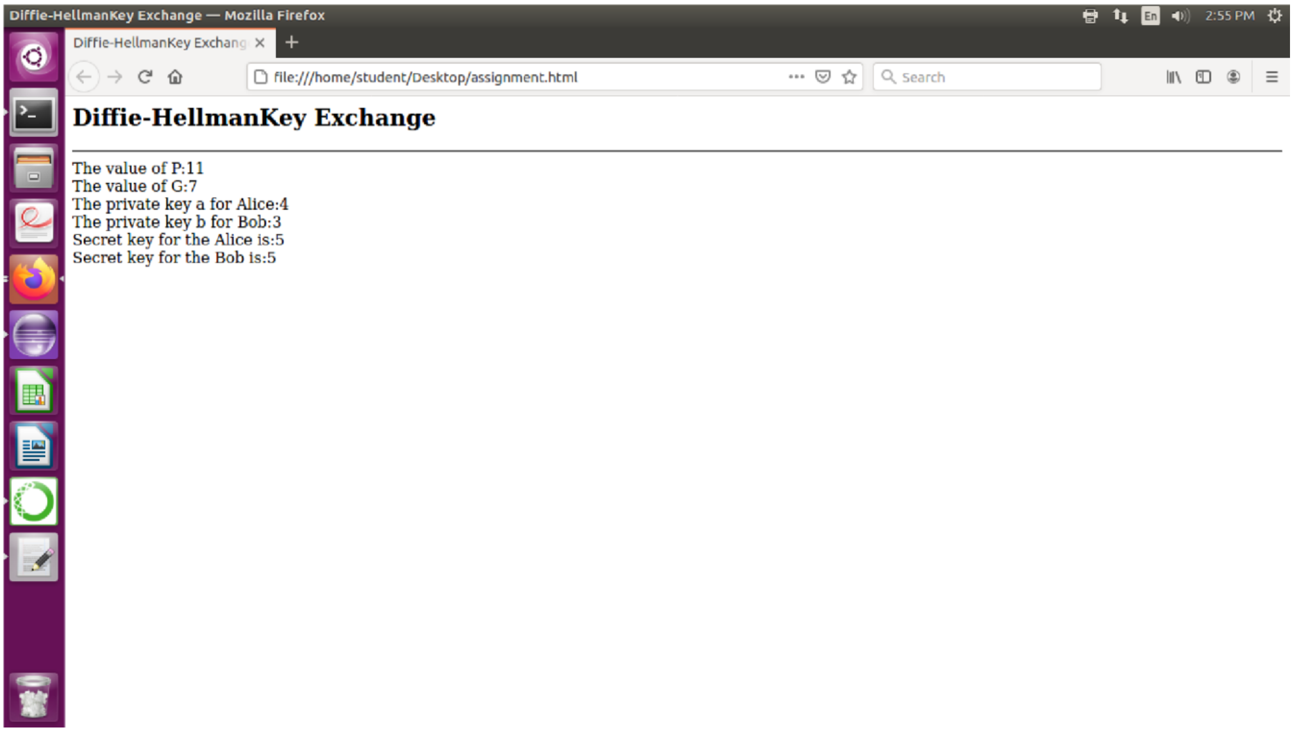
```
<html> <head>
<title>Diffie-HellmanKey Exchange</title>
</head>
<body>
<h2>Diffie-HellmanKey Exchange</h2>
<hr>

<script>


// This program calculates the Key for two persons
// using the Diffie-Hellman Key exchange algorithm

// Power function to return value of a ^ b mod P function power(a, b, p)
{
if (b == 1) return a; else
return((Math.pow(a, b)) % p); }

// Driver code var P, G, x, a, y, b, ka, kb;

// Both the persons will be agreed upon the
// public keys G and P

// A prime number P is taken
P = 11; document.write("The value of P:" + P + "<br>");

// A primitive root for P, G is taken G = 7; document.write("The value of
G:" + G + "<br>");

// Alice will choose the private key a // a is the chosen
private key a = 4;
document.write("The private key a for Alice:" + a + "<br>");

// Gets the generated key x = power(G, a, P);

// Bob will choose the private key b
// b is the chosen private key
b = 3;
document.write("The private key b for Bob:" + b + "<br>");

// Gets the generated key y = power(G, b, P);
// Generating the secret key after the exchange
// of keys ka = power(y, a, P); // Secret key for Alice kb =
power(x, b, P); // Secret key for Bob

document.write("Secret key for the Alice is:" + ka + "<br>");
document.write("Secret key for the Bob is:" + kb + "<br>"); </script>

</body>
</html>
```

Output:-


Diffie-HellmanKey Exchange — Mozilla Firefox
2:55 PM
Diffie-HellmanKey Exchang
file:///home/student/Desktop/assignment.html
Search

Diffie-HellmanKey Exchange

```
The value of P:11
The value of G:7
The private key a for Alice:4
The private key b for Bob:3
Secret key for the Alice is:5
Secret key for the Bob is:5
```