

i) SQL Injection

Ans) It is a kind of code injection attacks. The hacker in a code injection attack inserts a piece of code in a computer program. The execution of the infected program provides him with the access of the computer program or application.

ii) Broken authentication and Session management:- Incorrect implementation of functionality related to session management and authentication can result in these types of website vulnerabilities.

iii) Cross Site Scripting:- It is another kind of injection attack. Basically the malicious code is injected in a website & is executed in a browser.

iv) Insecure direct object reference:- A website becomes vulnerable to insecure direct object reference when a reference to an internal object. Developers need to pay extra attention as they are often responsible.

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for exposing it.

- Q) Wrong Security Configuration :-
Insecure configurations can be a component of a web application and can invite great security threats. An attacker can easily enjoy the privileges of the admin if you stick with the default configuration like using default username password.

```

Ans2 #include <stdio.h>
#include <string.h>
#include <ctype.h>
main()
{
    int i, j, len1, len2, numstr[100], numkey[100], numcipher[100];
    char str[100], key[100], cipher[100];
    printf("Enter a string text to encrypt");
    gets(str);
    for (i = 0, j = 0; i < strlen(str); i++)
    {
        if (str[i] != ' ')
        {

```

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```

str[j] = toupper(str[i]);
j++;
}
}
str[j] = '\0';
for(i = 0; i < strlen(str); i++)
{
    numstr[i] = str[i] - 'A';
}
printf("Enter key string of random text");
gets(Key);
for(i = 0, j = 0; i < strlen(Key); i++)
{
    if(Key[i] != '\0')
    {
        Key[j] = toupper(Key[i]);
        j++;
    }
}
Key[j] = '\0';
for(i = 0; i < strlen(Key); i++)
{
    numkey[i] = Key[i] - 'A';
}
for(i = 0; i < strlen(str); i++)
{
    numcipher[i] = numstr[i] + numkey[i];
}

```

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```

for (i = 0; i < strlen(str); i++)
{
    if (numcipher[i] > 25)
    {
        numcipher[i] = numcipher[i] - 26;
    }
}

printf ("One Time Pad Cipher text is");
for (i = 0; i < strlen(str); i++)
{
    printf ("%02d", numcipher[i] + 'A');
}
printf ("\n");
}

```

Output:

Enter a string text to encrypt
I am Kritika

Enter Key string of random text
Snyouthghgcv

One Time Pad Cipher text is
ARKWMPL

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- Ans) i) # 1 Key Pass :- It is a free & open source password management software which helps you in storing passwords in a single database, accessible using a master password.
- ii) # 2 Passbolt :- It is one of the best open source password management software which is self-hosted, highly scalable & open PaaS based.
- iii) # 3 Password Save :- It is a simple and highly secure password management software which works using MS Windows platform.
- iv) # 4 KeyPass XC :- It is a cross platform application which stores your passwords securely and auto-types them when required for the software and applications you used frequently.

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cat removes space
 for $i=0; i < p$
 of (plain $C[i]$):
~~plain [count]~~
 plain [count +
 plain [count]
 return count

}
 void generateKey
 ks, char

{
 int i, j, K pla
 dicty = (int *) call
 for $C[i=0; i < K$
 of (Key $C[i]$)!

$dicty[key[i] - 97] = 2;$

$\{ dicty[j - 97] = 1;$
 $i = 0;$

$j = 0;$

for ($k = 0; k < 26; k++$) {

if ($dicty[key[k] - 97] == 0$) {

$dicty[key[k] - 97] = 1;$

$keyT[i][j] = key[k];$

$i++;$

if ($j == 5$) {

$j++;$

$j = 0;$

}

}

for ($k = 0; k < 26; k++$)

if ($dicty[k] == 0$) {

$keyT[i][j] = (char)(k + 97);$

$i++;$

if ($j == 5$) {

$j++;$

$j = 0;$

}

}

Arshi/20


```
void search (char key[5][5], char a,
            char b, Pnt arr [3])
```

```
{ int i, j;
  if (a == 'a')
    a = '0';
```

```
  else if (b == 'a')
    b = '0';
```

```
  for (i = 0; i < 5; i++) {
```

```
    for (j = 0; j < 5; j++) {
      if (key[i][j] == a) {
```

```
        arr[0] = i;
```

```
        arr[1] = j;
```

```
      } else if (key[i][j] == b) {
```

```
        arr[2] = i;
```

```
        arr[3] = j;
```

```
      }
```

```
    }
```

```
  }
```

```
}
```

```
void encryptByPlayfairCipher (char Str[100],
                               char key[5])
```

```
{ char ps, ks, key[5][5];
```

```
  ks = strlen (key);
```

```
  ks = removeSpace (key, ks);
```

```
  toLowerCase (key, ks);
```

Amir/20


```

ps = strlen(str);
tolowerCase(str, ps);
ps = removeSpace(str, ps);
ps = prepare(str, ps);
generateKeyTable(key, ks, keyT);
encrypt(str, keyT, ps);

```

```

int main() {
    char str[SIZE], key[SIZE];
    strcpy(key, "Monarchy");
    printf("Key text: %s\n", key);
    strcpy(str, "instruments");
    printf("plain text: %s\n", str);
    encryptByPlayFairCipher(str, key);
    printf("Cipher text: %s\n", str);
    return 0;
}

```

Output:

key text: Monarchy
 plaintext: instruments
 cipher text: gatlmzclrgtre

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```
Ans #include <stdio.h>
#include <string.h>
int main()
{
    char plantxt[100] = "abcdefghijklmnopqrstuvwxyz";
    char temptxt[100] = "zzzzzzzzzzzzzzzzzzzz";
    printf("Enter plain text\n");
    fflush(stdin);
    fgets(plantxt, sizeof(plantxt), stdin);
    while int k=0, k2=0;
    while (plantxt[k] != '\0')
    {
        if (isalpha(plantxt[k]))
        {
            temptxt[k2] = plantxt[k];
            k2++;
        }
        k++;
    }
    printf("Encrypted text\n");
    k=0;
    for (int j=0; j<5; j++)
    {
        for (int i=0; i<5; i++)
        {
            ar[i][j] = temptxt[k]; k++;
        }
    }
}
```

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```
for (int i = 0; i < S; ++i)
{
    for (int j = 0; j < S; ++j)
    {
        printf("i: %d, j: %d\n", i, j);
    }
    printf("\n");
}
return 0;
```

Amal