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of all strong
System Calls 2001 Openating System
Open:
         #include Kstdio.h>
         # include < jontl. A>
         # include Lesisino. A>
         extern int eggino;
         int main()
             int Id = open ("IRle. +x+", O_ROONLY 10_(REST);
            paint] (" ]d= %d\n", ]d);
             if (fd== -1)
               parinty (" Esision Number %d h", esisio);
             ? Peoisiosi ("Porogoiam");
            outroin 0;
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To familiarize & understand the use & functioning of Bystem Calls used Jose Operating System & network perogeramming in Linux.

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System Calls Jose Operating System

(i) Create: - Used to create a new empty file

Syntax in C language:

int coreat (chase * Illename, mode_t mode)

(ii) Open: - Used to open the IRle for reading, writing or both. Syntax in C language:

#include (sys/types. A)

include Lsys/stat. A>

include (finish)

int open (const chase * Path, int flags [, int mode]);

(11) Read: - Forom the file indicated by the file descouptour &d, the nead() Junction swads Ent bytes of input into the memory area indicated by but

Syntax in Clanguage:

size_t awad (int fd; void * but, size-t (nt);

(iv) Woulte: - Woultes ant bytes Josom but to the file on socket associated with Jd. Syntax in C language #include Lacott. No

size t monite (int dd, voida buf, size t cnt);

```
Read:
         #include Ketdio.h>
   # include < fontl.h>
         int main ()
             int Id, 8%;
              chaoi * c = (chaoi *) calloc (100, size of (chaoi));
              2d= open (" 286. +x+", O_ROONLY);
              if (fd<0) { peacoon ("a1"); exit(1); }
              8z= quad (gd, c, 10);
              posint fl"called seed (%d, c, 10). setwoned that"
                       " % d bytes messe swad . \n", fd, sz);
              c[8z] = 10;
              pointfl" Those bytes are as follows: %s \n', c);
```

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(1) Close: Tells the operating system we are done with a file
           descriptori & Closer the file which is pointed to by
           Syntax in Clanguage:
     #include (Johl K)
              int close (int fd);
vi) Sleep: - Sleep Jos a specified number of seconds.
           Syntax in Clanguage:
               #include (unistd.h)
               unsigned int sleep (unsigned int seconds);
(vii) Exit: Teaminate the calling parocess
          Syntax in C language:
               #include Lungstd.h>
               void _exit (int status);
vii Unlink: - Delete a name l possibly the file it refers to.
            Syntax in ( language:
                #include Lunistd.h>
                int unlink (const chase * pathrame);
(ix) kill: - Send eignal to a powcess
          Syntax in Clanguage:
              # include ( sys / types. h)
              # Include (signal.h)
              int kell (pidet pid, int sig);
(x) Gret Pid: - Gret powcess identification of calling powcess
              Syntax in Clanguage:
                 # include /ays/types. h>
                 # include (unistal. h)
                 pid_t getpid (void);
```

```
Close:
             #include (stdio.h)
               # Enclude < Jent 1. h>
               int main ()
                    int gd1= open ("fele. +xt", O_ROONLY);
                     if (gel1 < 0)
                    peogood ("c1");
exit(1);
                   posint ("opened the Id= %d \n", Id1);

if (close (Id1) < 0)

perocosi ("c1");

ex8+(1);
Samuel 18
                     pointy ("closed the fd. n");
                 off in the say
         (Commenting & come to post tribines to
                   Copy took blog to the took took
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(xi) Get Ppid: Returns the priocess ID of the parient of the
              calling powcess.
              Syntax in Clanguage:
                 # include (Bys/types.h)
                 # include / Linistd.h>
                 pid-t getppid (void);
(xii) Gret Vid: - Gret uses identity
             Syntax in Clanguage:
    #include (unistal.h)
    # Include < sys/types.h>
                uid_t getuld (vold);
(xiii) Foork: - Coreate a chald porocess.
            Syntax in Clarguage:
           #include (sys/types.h)
    #include Lunistd.h>
                pld-t Josk (vold);
(xiv) Pipe: - Coueates pipe, a unidiouctional data channel that can
           be used Jos interpriocess communication.
        Syntax in Clanguage:
             #include Lumistah)
               int pipe (int pipefd[2]);
(xv) Figo: Fiorst-in-fiorst-out special file, named pipe
           Byntax in Clanguage:
             int mkgifo (const chasi * pathname, made t made);
(xvi) Exect: Replaces the cusiont powcess image with a men
           Byntax in C language:
              # include & unistd . R>
               int exect (comet chase * path, comet chase * asys,
```

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System Calls Josi Network Porogonamoning
      Socket:
      Segven!-
                   # Proclude (unistd.h)
                   # include (stdio.h>
                  # include < sys/socket.h>
                  #include < stall b.h>
                  #include < netinet/in.h>
                  # Include ( storing . A)
                   #define PORT 8080
                   int main (int asige, chase const *asgv[])
                     int scover-fd, new-socket, valouad;
                     stouch sock adda in address;
                      int opt=1;
                      int addarlen = size of (addoress);
                      chan buffen [1024] = 203;
                      chao: * hello = "Hello Joion segiveri";
                      if ((see wee - fd = socket (AF-INET, SOCK_STREAM,
                         0))==0)
                        pesion ("socket galled");
                        exit (EXIT_FAILURE);
                     if (setsockopt (segrented, SOL-BOCKET, SOLREUSENDE
                           180_REUSEPORT, 20pt, street (opt)))
                        pegorosi ("setsockopt");
                        ex9+(EXIT_FAILURE);
                     address. sin_family = AF_INET;
address. sin_addr.saddr = INADDR_ANY;
                     addowss. sin_posit = Atoms (PORT);
                     of Lornd (sesues) Id, (storuct sockaddor *) Raddross,
                                             Size of (address ))(0)
                         pesonosi ("bind galled");
                         exit(EXIT_FAILURE);
the least through the a
```

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System Calls Jos Netwosk Psiggramming
i) Socket: - Coreate an endpoint four communication.
            Syntax in Clanguage:
#include (sys/types.h)
#include (sys/socket.h)
int socket (int domain, int type, int povotocol);
(ii) Bind: - Bind a mame to a socket
            Syntax in Clarguage:
# include < sys / types.h>
#include < sys/socket.h>
int bind (int socked, comst stand sockadds
         *adds, socklen-t addslen);
(iii) Listen: Listen Jose commections on a socket
             Syntax in Clanguage:
                 # Include < sys / types. h>
                 # Include (sys / socket.h>
                 int listen (int socklyd, int backley);
(iv) Accept: - Accept a commection on a socket
             Syntax in C language:
#include < sys / types.h>
#include < sys / socket.h>
                 int accept (int socked, stouch sockadder *adda,
                      socklent * addorlen);
(v) Connect: Initiate a commection on a socket.
                Syntax in Clanguage:
                  #include (sys/socket.h)
                  int connect lint sockfd, const stouct
                        sockadder *adder, socklen_t adderLen);
```

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Pf (lesten (seaves) - fd, 3) < 0)
                   perocool l'Isten');
                    exPLEXIT_FAILURE);
                if linen-socket = accept (server- gd, (storuct sockat)
                   *) Louddonss, (socklen-++) Louddon () <0)
                    peso1001 ( "accept");
                    exit (EXIT_FAILURE);
                valouad = siead (new-socket, buffer, 1024);
                paint ("%s \n", buffer);
                 send (new-socket, hello, starlen (hello), 0);
                point? ("Hello message sent in");
      Listen free commenter on a section
                of much < and there has
               ch. labore 1 of Sambal to
    (galden til end of his beading):
        المددوة م دومه ودارة ويه م موداروا
                   of in who do the
int or apt I mi acridar about tracked a
             Comment of the same
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Resull Familianized & understood the use & Junctioning of System Calls used Jose Openating System & network perogeramming in Linux.