Question 1 :

#include<stdio.h>

#include<stdlib.h>

extern char \*\*environ;

int main(){

char \*\*env = environ;

while(\*env){ //while \*env is true and is not false;

printf("%s\n",\*env); //print the environment variable;

env++; //increment the value of env to display next environment variable;

}

exit(0);

}

Question 2 :

#include<time.h>

#include<stdio.h>

#include<stdlib.h>

#include<fcntl.h>

#include<string.h>

#include<unistd.h>

int main(){

int fd= open("dateTime.txt",O\_RDWR|O\_CREAT,0777);

struct tm \*timeptr,timestruct; //structure of time

time\_t the\_time; //variable of time\_t datatype;

char buf[256]; //character buffer of size 256;

timeptr= localtime(&the\_time);

strftime(buf,256,"%a %d-%b-%Y, %I:%S %p",timeptr); //%a for short day name, %d for date, %b for short month name, %y for year %p for am

write(fd,buf,strlen(buf)); //write in file descriptor of the file , strlen calculates the length of the buffer ;

printf("Date and TIme = %s",buf); //prints the date and time from buffer;

}

Question 3 :

#include <unistd.h>

#include <stdlib.h>

int main(int argc, char \*argv[])

{

char check; //later use in program to detect where option to add or subtract

int opt;

while((opt = getopt(argc, argv, "sd")) != -1) { //while (opt!= -1);

switch(opt) {

case 's':

check='s';

break;

case 'd':

check='d';

break;

case '?':

printf("unknown option: %c\n",optopt); //Invalid option case

break;

}

}

int action=0;

for(int i=1; optind < argc; optind++)

{ if(i==1)

action=action+atoi (argv[optind]);

if((check=='s') && (action!=atoi (argv[optind]))){ //checking for option 's' and then by atoi converting to integer and adding both numbers

action=action+(int)atoi (argv[optind]);

}

if((check=='d') && (action!=atoi (argv[optind]))){ //checking for option 's' and then by atoi converting to integer and adding both numbers

action=action-(int)atoi (argv[optind]);

}

i++; //continue in loop;

}

printf("%d",action); //printing the answer;

exit(0);

}