LAB 4 Solutions

Exercise Total Space

```
#include <stdio.h>

int main() {
   int number,sum=0;
   int k;
   char unit;
scanf("%d",&number);
for(int i=0;i<number;i++){
   scanf("%d %c",&k,&unit);
   if(unit =='i'){
      sum=sum+k*sizeof(int);
   }
  else if(unit =='c'){
      sum=sum+k*sizeof(char);
   }
   else if(unit =='d'){
      sum=sum+k*sizeof(double);
   }
   else{
      printf("invalid type\n");
      return 0;
   }
}
printf("%d bytes\n",sum);

   return 0;
}
```

Exercise Age Pointer

```
#include <stdio.h>

int main() {
int age;

// declare an integer pointer named ageptr :

scanf("%d", &age);

// store the address of age in ageptr :
int * ageptr = &age;

printf("You are now %d years old\n", * ageptr);

// using only ageptr, lower the age by 5 years :
* ageptr = *ageptr -5;

printf("Five years ago, you are %d years old\n", * ageptr);

return 0;
}
```

Exercise Total Memory Space

```
#include <stdio.h>
   int main() {
      int num,total=0;
      char unit;
      int i;
      int b;
      int kb;
      int mb;

      scanf("%c %d",&unit,&num);
      if(unit=='i'){
        total = num*sizeof(int);
      }
      else if(unit=='s'){
        total = num*sizeof(short);
      }
      else if(unit=='c'){
        total = num*sizeof(char);
      }
      else {
        total = num*sizeof(double);
      }

    if (total>=1000000)
         {
      mb = total/1000000;
      kb = (total%1000000)/1000;
      b = (total%1000000)%1000;
      printf("%d MB and %d KB and %d B\n", mb, kb, b);

   } else if (total>=1000&&total<1000000)
   {
      kb = total/1000;
       b = total%1000;
      printf("%d KB and %d B\n", kb, b);
   } else
   {   b=total;
      printf("%d B\n", b);

         }
   return 0;
}
```